

A5
9

Washington





Class 8451

Book .W2 A5

1919

Washington Washington



AGRICULTURAL SERIES NO. 11

UNITED STATES RAILROAD ADMINISTRATION

AGRICULTURAL SERIES NO. 11

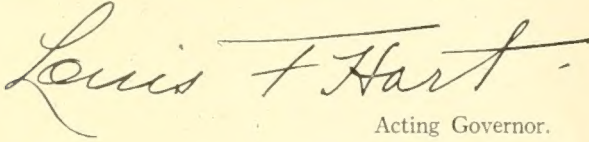
UNITED STATES RAILROAD ADMINISTRATION

WASHINGTON—THE EVERGREEN STATE

Messages from State Officials

Olympia, Washington.

After an examination of the copy of the Washington Booklet, with particular reference to agriculture, I desire to commend the fairness and accuracy of the statements contained therein, as well as the lucid presentation of the subject.



Acting Governor.

Pullman, Washington.

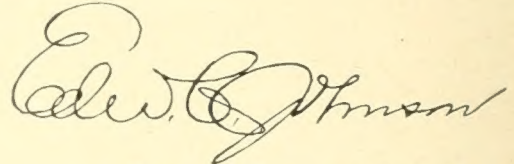
The new settler and the established farmer as well, daily encounters problems relating to the farm and home, which cannot be solved out of their own experience or that of their neighbors. Where crop raising is the principal business, the settler wonders what varieties are best; while the farmer experienced locally looks for better varieties, methods of improvement in the varieties grown, and for more efficient management of crops and soils. Where fruit growing is the important industry, similar problems and a multitude of others are encountered, such as when and what to spray, when to prune, or how to market with profit. Where the production of beef, pork, mutton and wool, poultry, or dairy products is emphasized, it must be decided what crops are best for feed, what crops should be grown for silage, what feed or combination of feeds will be least expensive and give best results, and how the flocks and herds are to be protected from disease. When these and other primary problems are solved, the more complex, such as what cash crops should be featured, what crop systems will maintain fertility and be most productive, what is the cost of producing the farm products as compared with the selling price, what profits can be legitimately expected, and other similar fundamental questions, must be considered.

The Washington Experiment Station is ready and willing to help every farmer answer these questions. Its work is done at six distinct stations, operating as a unit and so located as best to meet the problems peculiar to the outstanding agricultural areas. The Washington State College, of which the experiment station is an important part, maintains a large corps of practical men and women, farm raised and well trained to do this work, and to give to the boys and girls of the State who come to the college an education which is both liberal and practical. In addition, through its extension service, it brings to every

farm the truths organized and developed by the experiment stations so that they may be applied in a practical way.

I take pleasure in commending the contents of this publication, prepared by representatives of the Washington State Agricultural College, Agricultural Section United States Railroad Administration, and others.

To those who come to occupy lands herein described, a most hearty welcome is extended with an assurance of ability and readiness to serve in the most effective way.



Dean and Director, Agricultural College and Experiment Station.

Olympia, Washington.

I have read the contents of this booklet and am pleased to note that so much care has been taken in presenting the facts regarding the various districts of this State. It is extremely difficult, if not impossible, to picture the resources and conditions of a country to people who have never seen it. This State contains practically no homestead lands that are worth taking up; the opportunities for new settlers are chiefly of three kinds: (1) In the wheat-growing districts of Eastern Washington, the purchasing and subdividing of the large farms already in cultivation. (2) In the irrigated districts of Central Washington. The lands now under ditch are practically all owned and improved, and opportunities in these districts are limited to the purchasing of improved or partially improved lands, or getting raw lands under the irrigation projects not yet constructed, but on many of which preliminary work is far advanced and immediate construction is expected. (3) The logged-off lands of both Eastern and Western Washington. These lands, while cheap in price, are very expensive to put in cultivation, and no prospective settler should be invited to tackle the job of clearing these lands without being fully apprised of the difficulties and expense incident to this kind of work.



Commissioner of Agriculture.

U. S. RAILROAD ADMINISTRATION



This farmer is making a good start by growing strawberries between the young fruit trees, until the bearing stage of the trees is reached

Washington

Washington, styled the "Evergreen State" contains about 42,775,000 acres of land, more than one-half being now held in private ownership. Of the titled acres probably 7,000,000 are improved, a considerable portion of the same being farmed, and about 3,000,000 unimproved, but suitable for farming when reclaimed. The remaining areas of Washington are in state land grants, unappropriated federal lands and reserves.

The altitude ranges from sea level in the West to 10,000 and 14,000 feet in peaks of the Cascades, 500 to 1,500 feet in the irrigated valleys, 1,000 to 2,000 feet in the tablelands and 2,000 to 2,600 feet near the eastern boundary.

The climate of Washington is peculiarly suited to agriculture, horticulture, and to extensive live stock production. The weather here is not extreme. This is due to the effect of the mild air currents of the Pacific Ocean which spread their influence over the entire State.

Washington is almost equally divided in area by the Cascade Mountains. The Western portions

seldom experience freezing weather, and plants, shrubs and grass often remain green during the entire year. Roses often bloom until Christmas and spring flowers blossom in January.

The Eastern section experiences more substantial winter weather, with light snow falls and short periods of sharp, freezing weather. Ice from the lakes and streams is consequently undependable and the large cities manufacture this product for summer use or ship it in from mountain lakes. There are no blizzards or cyclones, and frequent "Chinook" winds melt the snow soon after it falls. The precipitation in Eastern Washington ranges, according to altitude, from nine inches at 1,000 feet to approximately 16 to 24 inches in the higher elevations of the Eastern and Northern parts of the State; 80 per cent of this falling between October and May, which, on account of little frost in the ground, is usually absorbed and conserved for producing crops.

The well defined fruit, grain, grass, sugar beet, hops, and hay areas of the midstate valleys are

WASHINGTON—THE EVERGREEN STATE



Washington holds the world record for the production of wheat per acre. Yields of forty-five to fifty-five bushels per acre are common—note the height of this wheat

semi-arid in character but well supplied with irrigation from the numerous mountain lakes and streams.

There are full grown men and women in this State to whom both thunder and lightning are totally unknown. The lowest mean temperature, that of January for Seattle and Tacoma, is 39 degrees, Walla Walla 33 degrees and Spokane 27 degrees. These three places represent the West, the East and central portions of Washington. The Southwest may be gauged from Seattle and Tacoma. Thirty years' records show the mean temperature for June, July, August and September to be, Seattle and Tacoma, 61 degrees, Spokane 65 degrees and Walla Walla 68 degrees. Hot nights are rarely known in any portion of the state.

The soils are as varied as its climate, altitude and precipitation. Many regions have several different kinds, and while the new settler from the East will be unable to recognize soils similar to those of the East, he will soon learn to recognize the value of the volcanic ash, decomposed basalt and Western clay soils. They are, as a rule, deep, rich in mineral plant food, easily tilled and always responsive to proper treatment.

The climate, altitude, rainfall or irrigation possibilities are generally of as much importance in crop production as the actual content of the soil. Never-

theless, careful surveys and soil analyses have been made of all the agricultural sections of the state, and the State Experiment Station is always glad to assist the farmer in the best method of soil management.

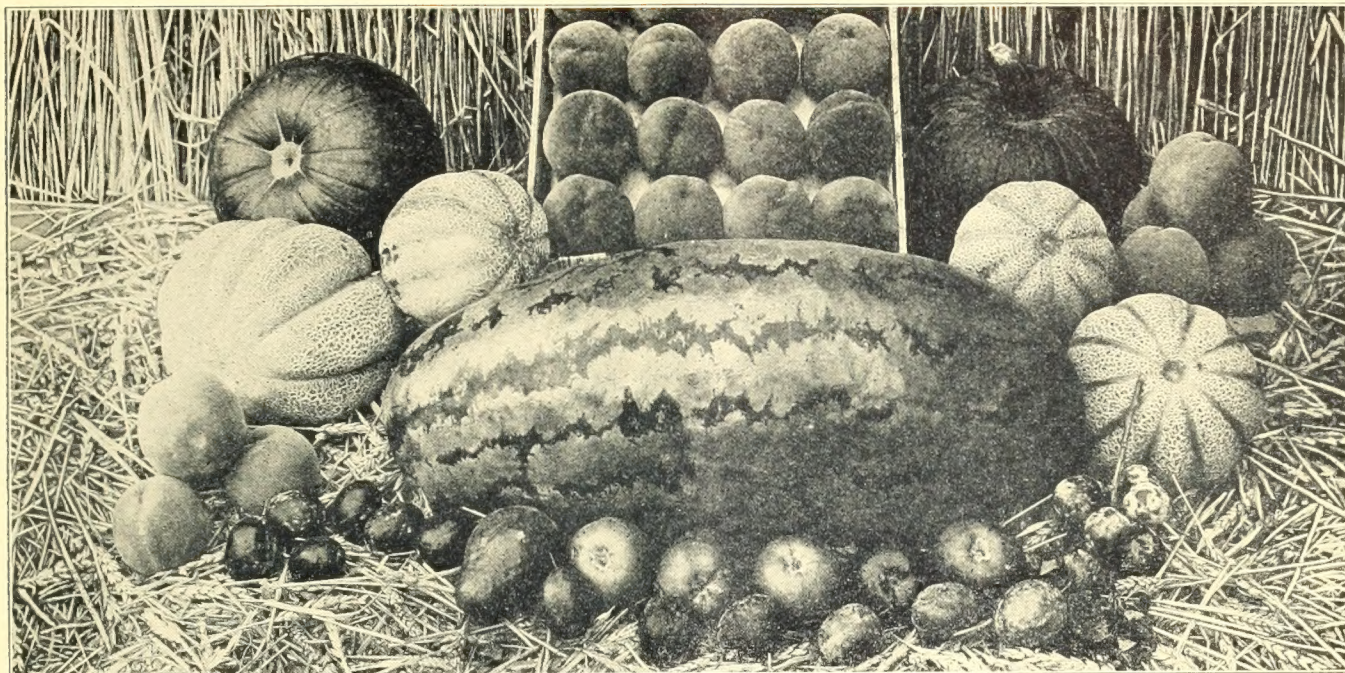
Virgin forests cover approximately 16,000,000 acres within the State, two-thirds of which are included in eleven National Reserves for the necessities of future generations. It is estimated that four hundred billion board feet of lumber are now in the standing timber of these forests, in varieties of fir, cedar, yellow pine, hemlock and spruce. "Washington Fir" and cedar predominate in Western Washington, while white spruce and pine are the usual types found in the Eastern portion.

Approximately 50 per cent of the State's manufactures are shingles and lumber, and this will continue for many years to come. For ten years past this State has led all others in these products, represented by an annual output of 4,000,000 board feet of lumber.

FRUIT GROWING

Fruit growing in Washington refers to deciduous fruits, but especially to commercial apples. The evo-

U. S. RAILROAD ADMINISTRATION



A few of Washington's products. The State produces some of the finest flavored fruits in the country, of an endless variety

lution of fruit raising in this State has established the success of fruits for which natural conditions are best adapted. Natural conditions of soil and climate are the foundation on which fruit raising rests. Many sections of the State have specialized on different kinds of fruit, such as apples, prunes, strawberries, and raspberries of several kinds.

Commercial apple production is confined largely to the irrigated valleys at the eastern foot of the Cascade Mountains and several protected areas in the eastern part of the State. Among the most famous and successful districts in the order named are the Yakima Valley, Wenatchee Valley, Okanogan Valley, Spokane Valley, Walla Walla Valley, Lake Chelan and Methow Valley, and White Salmon Valley.

The importance of apple production may be seen in the shipments from the State, which in 1918 amounted to 19,000 carloads of 750 boxes each, the State standing second in the United States, while in 1917 Washington stood first of all the states. The State shipped other fruits in 1918 as follows: Peaches 1,028 carloads, pears 2,618 cars, fresh plums and prunes 706 cars, sweet cherries 460 cars, sour cherries 28 cars, apricots 199 cars, grapes 52 cars, small fruits and berries 733 cars, dried prunes 500 cars.

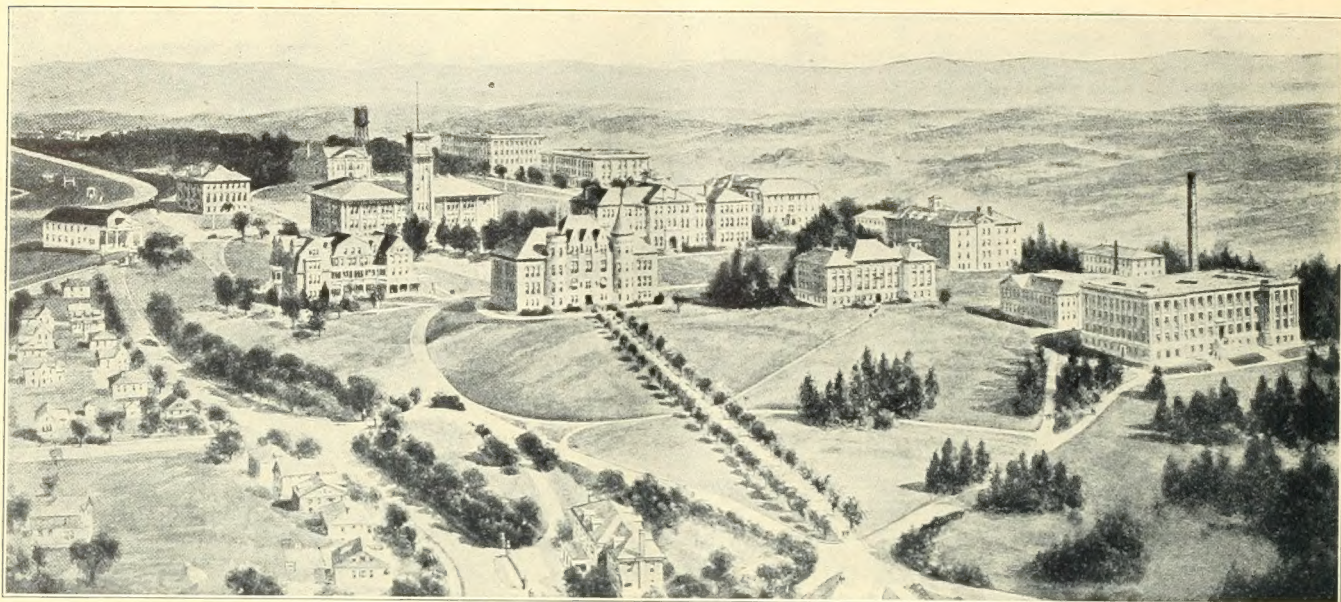
Notwithstanding that this State is commonly

thought of by many people as a fruit state, the area of land devoted to this industry is comparatively small. The industry is continually expanding as market and distribution expands. The State stood first in price to the producer in 1918.

The development of fruit raising in Washington has been truly phenomenal, as the industry was begun after older states had established their production and become entrenched in the great markets of the country. In the face of this competition Washington apple growers have developed their orchards through the growing and non-producing period, met the handicap of long hauls to the principal markets, and produced a superior quality of fruit which now commands the highest prices in all domestic markets, and on account of the continuous production of never-failing crops have reached the stage when Washington, the State, has ranked first in production of all the states but always near the top.

Within a quarter of a century, and in some instances a shorter time, now famous apple-growing districts have been transformed from a useless waste of sagebrush and desert into orchards whose product brings returns of great value, probably in many instances the greatest value of any important area in the United States. These results are for the

WASHINGTON—THE EVERGREEN STATE



Campus and buildings of the State College. Washington has made ample and permanent provision for its educational system

most part due to natural adaptability of soil and climate and the application and control of water by irrigation and experienced care of the orchards. In several of these apple-growing districts crop failure is entirely unknown.

Many good opportunities are presented in the fruit growing districts to purchase bearing orchards at reasonable prices or orchards soon to mature to bearing age. No industry in the State has proven more satisfactory to its owners than fruit growing, either from the standpoint of income or from the standpoint of home environment and pleasure of the occupation.

EDUCATIONAL

The early residents of Washington made ample and permanent provision for a system of education that would be a credit to any state in the Union. Definite provision was made for the construction, equipment and use of rural schools, not alone for school work as commonly understood, but also for rural community development, and as a result the rural schools are rapidly becoming community centers around which a high type of citizenship is developing.

As the regular school work closes in the early summer, provision has been made through the Smith-Hughes Act and Boys' and Girls' Club work for agricultural and home economics training during the summer months, under proper supervision, for thousands of boys and girls.

The spirit of education is probably nowhere better illustrated than in many of the high schools, where complete four year courses of instruction are offered. Many of the high schools are also offering regular courses in manual training, home economics, agriculture, music and art.

State Normal Schools are established at Cheney, Ellensburg and Bellingham. The State College is located at Pullman, and the University at Seattle. There are also a large number of private schools and colleges.

Agricultural assistance is given to the farmers, fruit growers and stockmen by means of farmers' institutes, agricultural extension schools, gas engine schools, conferences, community fairs, lectures, demonstrations and literature sent out by the college and federal government, so that no new settler need fail, regardless of his ignorance of local problems, for the lack of information.

The State College, in co-operation with the United States Department of Agriculture, employs

U. S. RAILROAD ADMINISTRATION



Hogs and alfalfa are a combination that is hard to beat and the State has the feed and climatic conditions to produce pork economically and abundantly

specialists in animal husbandry, dairying, soils, crops, farm accounts, horticulture, home economics, poultry husbandry, plant diseases, insect pests, veterinary science, marketing, drainage, and engineering, who are continually at the call of the farmers, fruit growers, and stockmen in the solving of their problems. County agricultural agents are co-operatively employed by practically all of the counties, and devote their entire time to assisting the farmers in the solving of the agricultural and community problems and in the aiding of new settlers in the location of desirable lands. Home demonstration agents are assisting the housewives in the working out of the many home problems. Boys' and girls' club leaders are now employed on part or full time in twenty-one of the counties of the State, and are training the girls in home economic problems, and the boys in growing and marketing of crops and in the production, feeding, and care of live stock.

A state reclamation bill, recently passed by the legislature, provides for the development of the agricultural resources and the reclamation of arid, swamp, overflow and logged off lands. A revolving fund of \$500,000 is created for the investigation and surveys of proposed land reclamation districts, and if found meritorious the board is empowered to purchase bonds of the districts and enable the land

owner to proceed with development work. Additional funds will be provided by a one-half mill tax levy which will enable the State to encourage land development projects in co-operation with the Federal Government, or without any aid from the Government, if necessary.

General Farming

While the farms of Washington are already producing annually millions of dollars worth of agricultural products, including wheat, fruit, wool, live stock, vegetables, poultry and dairy products, one familiar with the agricultural possibilities recognizes at once the unlimited opportunities for increased production by means of a better system of farm management; the introduction of certain forage crops for summer fallow lands, the improvement of agricultural practices; the increasing in area of many of the irrigation projects and the building of new ones; the organization and building of new diking and drainage districts in the Coast country; the reduction of certain waste now common on many old farms and the marketing of other farm and orchard wastes, by-products, meat, etc.

The crop production of Washington is rapidly passing from the stage of small grain, and range stock to diversified grain farming, including in addi-

WASHINGTON THE EVERGREEN STATE



Washington has good roads, and the State will spend \$10,000,000 on the construction and improvement of roads during the next two years, aside from the money the various counties will spend on the same work

tion to the small grains usually grown, alfalfa, corn, peas, beans, potatoes and other crops, all kinds of live stock, and a very wide range of fruits. Dairying is rapidly becoming one of the most important industries, especially in Western Washington, where it is possible to pasture the stock ten to eleven months in the year, and in the irrigated valleys where unusually large crops of ensilage can be produced on small areas.

Stock Raising

The pioneer stage of the live stock industry is past, a transition having taken place in a brief quarter of a century, and to-day substantial foundations of pure blooded horses, cattle, sheep, hogs, and poultry are found on many farms. This evolution applies to the entire State, from the favored dairy sections along the Puget Sound, through the pastures of the Okanogan, Chelan, Kittitas, Yakima and Walla Walla valleys with their flocks of sheep, herds of well bred hogs and high grade horses, to the plains of Eastern Washington, including the Big Bend, Palouse and Spokane Valley, where the stronger and better types of beef cattle are bred to a great profit.

As attractive adjuncts to the live stock industry, almost every county of the State has a Fair and the best types of animals from each community

usually wind up in the show ring of either the State Fair at Yakima, the Interstate Fair and Live Stock Show at Spokane, or the Western Washington Fair at Puyallup, or the Southwest Washington Fair at Chehalis.

For care of the dairy products, condensed milk plants have been established in the State.

To provide home markets for live stock, stock yards have been established at Seattle, Pasco-Spokane and Tacoma, where there are large packing plants, with attractive home and foreign markets for their products.

With all these natural advantages live stock is but sparsely represented on range or farm. The government census of sheep, January 1, 1918, showed 661,000, and on the same date 1919, 779,980. In the same periods the swine census showed 283,000 in 1918 and 316,916 in 1919.

The State Commissioner of Agriculture estimates the value of cattle, milk cows, hogs and sheep, January 1, 1919, to be \$42,400,000, a gain of \$10,000,000 since January 1, 1915. The largest gain in any class has been sheep.

Transportation

The following railroads, with their numerous branches, reach the important and producing areas,

U. S. RAILROAD ADMINISTRATION



Fruit and bees are a good combination. Every farmer should have bees, as he will soon learn that honey brings a good steady cash income

thus providing shipping points within easy reach; Camas Prairie, Chicago, Milwaukee & St. Paul, Great Northern, Northern Pacific, Oregon-Washington R. R. & Navigation, and Spokane, Portland & Seattle Ry. Only a limited amount of undeveloped land is now located remote from transportation.

HIGHWAYS

Washington will spend \$10,000,000 on the construction and improvement of roads during the coming two years, aside from the sums that the various counties will raise.

According to the Highway Apportionment Bill, this will be done without a dollar of bonding. The funds will be raised by federal aid, auto licenses, and taxation. The program provides for the completion of the Pacific Highway running north and south through Western Washington and one highway east and west across the State.

BANK SUMMARY November 1, 1918

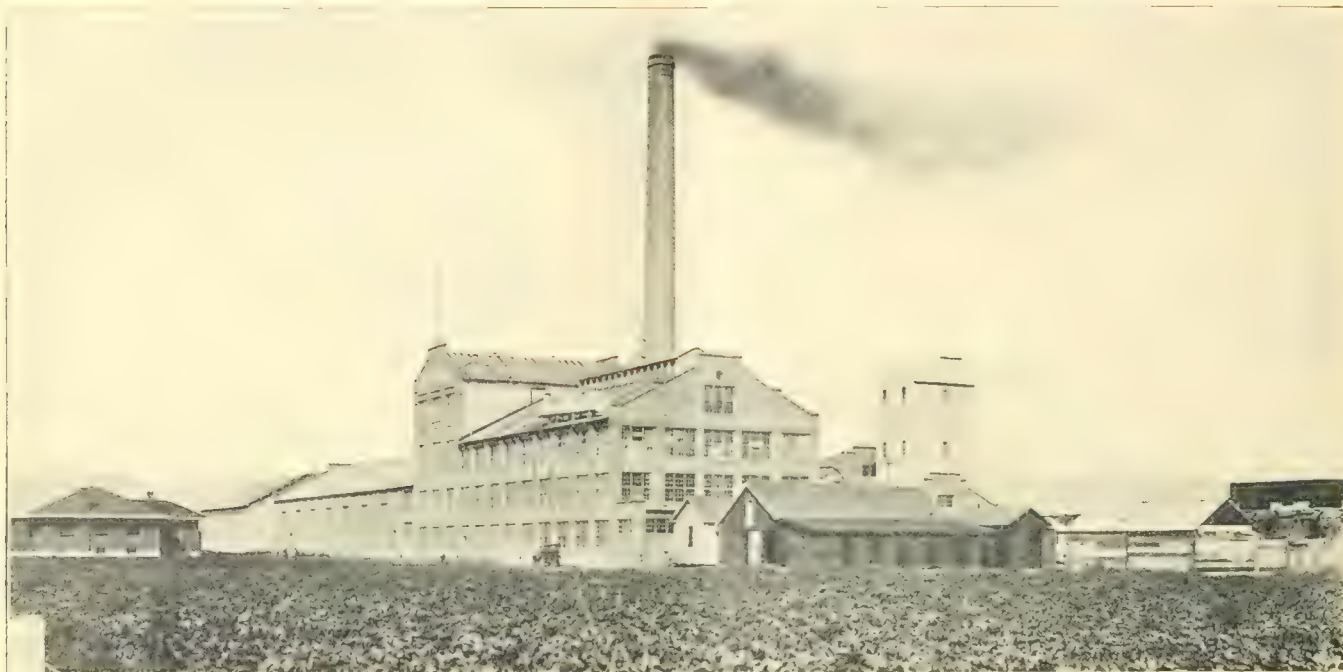
Capital Stock.....	\$ 27,869,000
Surplus and undivided Profits.....	16,125,000
Deposits.....	368,494,000
Other Liabilities.....	15,920,000
Loans, Discounts and Overdrafts.....	232,197,000

Bonds and Securities.....	94,454,000
Real Estate, Furniture, Fixtures, etc..	15,144,000
Cash and Deposits.....	93,499,000

YAKIMA AND KITTITAS VALLEYS

What is known as the valleys of the Yakima proper extends from Kennewick to Cle Elum, and includes the counties of Benton, Yakima, and Kittitas. The altitude at Kennewick is 372 feet, at Prosser 671, at Toppenish 768, and at Yakima 1,075 feet above sea level. The soil throughout is of a rich, deep, sandy loam, with ideal climatic conditions for livestock, the finer fruits and vegetables, and all classes of farm products. The valley receives an adequate supply of water from lakes in the Cascade Mountains. The productivity of the land justifies existing prices, which range from \$150 to \$250 an acre for improved farm land, and \$250 to \$1,000 an acre for improved orchard land. Raw irrigable land sells for \$100 to \$150 an acre. The payments for water are distributed over a 20-year period, which requires only the repayment of the principal without interest. In addition to government irrigation under three projects, officially designated as "The Yakima Project," there are numerous private canals in corporate ownership.

WASHINGTON THE EVERGREEN STATE



This sugar beet factory produced more than \$1,000,000 worth of sugar in 1918. The growing of sugar beets and the manufacture of sugar is an important industry in Washington

The 1918 government report gave a full valuation of crops under the Sunnyside project of \$7,213,392, or an average of \$102.36 an acre. This average exceeds the acre yield of 1917 by only \$5.00. Prunes made the banner returns under this project with a tonnage of 11,841 pounds from 275 acres, which sold for \$146,526, or an average of \$532.80 an acre.

Under the Tieton project, in 1918, a crop was raised valued at \$2,516,250.92. This represents an increase of \$738,655.30, or 41 per cent over 1917, the average acreage return under this project in 1918 being \$97.16 an acre.

The Wapato project had a 74,481-acre crop, of which 10,000 acres were under privately owned canals which returned crops valued at \$7,205,500, or, practically, \$100 an acre, a total increase of almost \$1,000,000 over the 1917 crop.

Adequate funds for the High Line project, on which the Government has already expended more than a million dollars in the preliminary work on the Rimrock Dam, will greatly increase the irrigated area of this valley under government supervision, thus opening many thousands of acres of raw land for farm development.

The 1918 crops exceeded in value the 1917 crops by \$5,000,000. In addition to the increase of acreage in beets, cereals, roots, corn, hay, and small

fruits, 5,000 acres of fruit trees are bearing crop in 1919 for the first time.

The sugar beet industry is a growing one in this valley, a factory now being very successfully operated at Yakima, and new factories will be completed and placed in operation during 1919 at Yakima, Toppenish, and Sunnyside.

A survey of the farms of Yakima County in 1918 gave the following acreage in crops:

Alfalfa	85,000	acres
Fruit	46,000	"
Wheat.....	32,000	"
Corn.....	15,500	"
Sugar beets	14,000	"
Potatoes.....	12,000	"
Oats.....	3,000	"
Barley.....	7,000	"
Beans.....	24,000	"

There are 400 silos in Yakima County.

Corn yields fifty to eighty bushels to the acre.

Yakima, the county seat and principal town of the valley, has a population of 24,000, while that of the county is estimated at 60,000.

The mean average temperature for the valley is 48 degrees.

U. S. RAILROAD ADMINISTRATION



A corn field in Benton County. Yields in this district often reach eighty bushels per acre, and eighteen to twenty tons of silage per acre

Statistics place Yakima County fourth in the United States in the value of crops produced.

On both sides of the Yakima and Kittitas valleys are highlands on which dry farming is extensively practiced. The total land area is more than a million acres; about one-half of which is tillable, and much of the remainder being well suited to grazing. The dry lands can be purchased for approximately \$10 an acre. Agriculture, horticulture, and stock raising are the principal pursuits. Many herds of cattle and flocks of sheep are driven down from the adjacent ranges to feed in the valleys during the winter.

Kennewick in 1918 shipped 500 carloads of fruit, totaling a half million dollars. Considerable berrying is carried on in this locality and the Kennewick strawberries are the earliest on the markets in the State, and the finer qualities and great quantities of European varieties of grapes are grown at Kennewick. Irrigation is obtained from the Yakima and Columbia rivers, their tributary branches, and from wells.

The Kittitas Valley is often referred to as the back door of the great Puget Sound markets of Seattle and Tacoma. The valley is the upper of a series of valleys watered by the Yakima River. It is oval in shape, being 30 miles long and about 20 miles

wide. It lies in the foothills of the Cascade Mountains, being the first valley on the eastern slope. The hills on the northwest are covered with fine timber, a very small proportion of which has yet been cut. This timber holds the winter snows for summer irrigation.

The hills furnish excellent summer pasture for great herds of cattle and flocks of sheep, while those to the South and East furnish the spring and fall pasture. Winter pasture is furnished on the eastern slope of the same hills, fronting on the Columbia River. Land now farmed in the valley is irrigated either from the Yakima River or from creeks which flow from the surrounding foothills.

There are three major irrigation canals taking water from the Yakima River: the Cascade, the Town Canal, and the West Side Canal, in addition to several smaller canals which irrigate a few hundred acres each.

The Kittitas reclamation district is intended to water 91,000 acres of land. Bonds for \$5,000,000 have been voted by the property owners on the same. This, when completed, will constitute another important district of irrigated land for farm development.

This is one of the most diversified farming sections of the State. The largest crop is hay, bringing the farmers more than \$2,000,000 in 1918. Timothy

WASHINGTON THE EVERGREEN STATE



Stacking some of the State's hay crop. Washington produces hay abundantly of the best quality

yields three to four tons to the acre, and alfalfa approximately six tons. The dairy industry is large, the three local creameries using the milk of 4,000 cows.

During the years 1913 to 1917 one farmer raised approximately 200 acres of potatoes each year, from which he received an average yield of 13 tons an acre, or 2,600 tons annually. One field of 25 acres produced 17 tons an acre, and another field of one-third acre produced 11 tons, or at the rate of 33 tons an acre. Throughout this time this farmer received an average price of \$17 a ton for his entire crop. The highest price received was \$100 a ton for selected seed stock. He shipped direct to the coast cities. Modern machinery for producing and handling the crop was used wherever it was possible. Potatoes are especially free from diseases in this valley.

Corn is being grown in an increasing acreage, particularly for silage. Wheat and other grains, potatoes, and fruits are likewise important crops. Considerable success has been made in growing sugar beets.

The soil is from two to twenty feet deep, its chief elements being volcanic ash and decomposed basalt. Drainage is natural, the slope for the valley being 2 per cent.

The winters are moderate and generally open, while the summers do not have any long hot spells and the nights are invariably cool. A summary of the weather bureau's reports for ten years shows an average of not more than seven nights during the season when the temperature did not go down to 60 degrees.

Ellensburg, the metropolis and county seat of Kittitas County, is 1,500 feet above sea level, and has a population of 7,000. The Snoqualmie Pass Route over the Cascade Mountains to Seattle passes through Ellensburg. One of the State Normal schools is located at this point.

The occupied sections of this district, and much of the sparsely settled portion, are supplied with transportation by one electric and four steam railroads. Thus most of the developed and available agricultural lands of Benton, Yakima, and Kittitas counties are within easy reach of stations, stockyards, elevators and storage facilities.

SOUTHEASTERN WASHINGTON

That section of Southeastern Washington south of the Snake River and east of the Columbia, comprises Walla Walla, Columbia, Garfield and Asotin counties. Soil and climatic conditions are



A young apple orchard in Southeastern Washington, with lettuce growing between the trees. The lettuce provides a good cash income for the farmer while he is waiting for the trees to bear

varied. The larger percentage of the district is rolling table land of volcanic ash and has a wonderful adaptability for absorbing and holding moisture, and produces crops in abundance without irrigation. The principal crops of this area are wheat, oats, barley, and fruit. The tendency of the farmers of this section for more than sixty years has been toward the single crop system, with summer fallow in alternate years. Probably no other section of the country has produced such abundant crops of wheat without the use of fertilizer or rotation of crops. Probably forty bushels an acre would be a fair estimate. The yields are somewhat variable, the rainfall being limited, with slightly lighter soils on the lower benches where the wheat yield varies from seven to ten bushels in a very dry year, and up to forty bushels an acre in favorable seasons.

Passing from this area toward the Blue Mountains on the East and to the North there is a slightly increased rainfall with increased yields until the bench lands are reached, which yield as high as 60 to 75 bushels an acre. The old settlers of this section, many of whom are still living, will verify the statement that the wheat farmers, who have never suffered from crop failures since the country was settled, have found their methods so profitable and satisfactory that they are slow to adopt systems

of diversified farming; hence the tendency has been to increase rather than decrease the farm units.

As an ideal diversified farming, home making, stock raising, dairying and fruit growing country, this section is exceedingly promising.

In different sections of this area there is considerable irrigated land where alfalfa yields from six to eight tons, corn from 75 to 100 bushels, and the farmers in these sections are beginning to appreciate the fact that alfalfa, hay and corn silage as a balanced ration is unexcelled for the production of either milk or meat, giving a higher value to the agricultural lands.

Thousands of sheep and cattle are pastured in the Weneha Forest Reserve during the summer and winter-fed in the irrigated valleys where climatic conditions are ideal.

The ranges in these foothills surrounding the valleys are well watered, springs and mountain streams being abundant. The district is intersected by numerous narrow valleys, giving each section its percentage of irrigated lands. Dry land alfalfa is being successfully grown on some of these bench lands, yielding from two to four tons an acre, depending upon the precipitation.

Many hundred carloads of early vegetables are grown and shipped each season from Walla Walla

WASHINGTON THE EVERGREEN STATE



Washington potatoes often yield twenty tons to the acre — many potatoes weighing three and four pounds each

and vicinity where market gardening has been an eminently successful industry.

Asotin, the most northeasterly county of this section, had a population of 11,000 in 1910, contains 387,840 acres of land, of which 54,000 are in the Weneha Reserve, and 21,300 are state lands. There are in private ownership now approximately 24,000 acres well adapted to general farming, fruit raising and live stock. Prices of these lands, unimproved, range from \$5 to \$60 an acre, while improved lands near small towns are valued from \$25 to \$200 an acre. Some homestead relinquishments 25 to 50 miles from settlements are to be had for \$10 to \$40 an acre, while the choicer fruit lands are selling for \$150 to \$500 an acre.

There is no railroad in Asotin County, its nearest point to railroad being Lewiston, Idaho, which is connected with Clarkston in Asotin County by a free bridge, Clarkston being eight miles from Asotin, the county seat. The market crops find transportation from Lewiston.

Asotin, Clarkston, Cloverdale and Anatone are the principal towns in this county, ranging in population from 250 to 1,200.

Columbia County, occupying the center of this group, has railway transportation, an area of 854 square miles, the southern portion lying in the

Blue Mountains. Its population in 1910 was about 7,000.

There are 550,000 acres of land in this county, 161,000 of which are in reserve, 16,000 of purchasable state land, and approximately 350,000 in private ownership. There are but 700 farms improved in this county now, one of which contains about 30,000 acres. Half the county is tillable, and the remainder suitable for grazing. There are some logged off areas in the foothills with adjoining timber. The soil is usually a deep volcanic ash, mixed with clay and little irrigation is necessary. Prices on unimproved land range from \$3 to \$15 an acre, while improved land sells at \$30 to \$600 an acre. General farming, stock raising and fruit growing constitute the leading resources and industries, the grain crop running over 3,000,000 bushels, chiefly in wheat and barley.

Dayton is the county seat, with an altitude of 1,600 feet, and a population in 1910 of 3,500. Starbuck, near the Snake River on the West, has a population of 1,000.

The south central county of this group, Garfield, is high, mountainous, and heavily timbered in the southern part, with rolling prairies of heavy fertile soil of great productivity in the northern part. The

U. S. RAILROAD ADMINISTRATION



Thousands of sheep pasture in the foothills during the summer and feed along the Columbia River bottoms in the winter

population of this county in 1910 was 5,000, but it has increased very rapidly since then. There are 450,000 acres of land in Garfield County, some 300,000 being held in private ownership, 170,000 of which are tillable. A large proportion of the remaining lands are well adapted to grazing purposes. The precipitation in these farming districts ranges from sixteen to twenty inches with no extremes in temperature, the weather being usually suitable to outdoor work. The soil is of volcanic ash and deep loam. Some irrigation is being carried on in the lower valleys where alfalfa and fine fruits are grown. The unimproved land suited for tilling is held at \$15 to \$30 an acre, while the improved land values run from \$40 to \$75 an acre.

The annual grain crop is about three and one-half million bushels. The principal kinds of live stock are cattle, hogs, horses and poultry. Pomeroy is the county seat, with an altitude of 1,900 feet, and a population in 1910 of 1,600.

Walla Walla County occupies the western portion of this group, and its land is rolling in character, sloping gently from an altitude of 350 feet at the mouth of the Snake River to 2,000 feet in the foothills of the Blue Mountains. It has 809,600 acres of land, 3,520 acres being in the Reserve, 25,900 grazing and farm lands and state school grant lands,

leaving 700,000 in private ownership. Land values range from \$15 to \$60 an acre for unimproved, and from \$70 to \$300 an acre for improved.

The cost of putting rough land under cultivation varies from \$7.50 an acre for sage brush, to \$50 an acre in timbered regions. The leading industries are farming, dairying, stock and poultry raising and manufacturing. There are many sheep on the farm pastures of Walla Walla County, and the Blue Mountains near-by afford excellent ranges for them. Walla Walla County has adequate railway transportation, and is on the Inland Empire Highway.

The crop estimates of this county for 1917 follow:

Wheat, 4,000,000 bu. @ \$1.90	\$ 7,600,000
Alfalfa, 100,000 tons @ \$16	1,600,000
Barley, 500,000 bu. @ \$1.25	625,000
Apples (Walla Walla and Touchet Districts	
700 cars @ \$1.25 per box)	612,000
Prunes, 500 cars @ \$50.00 per ton	300,000
Onions, 270,000 sacks @ \$1.25	337,500
Corn, 80,000 bu. @ \$1.30	104,000
Cherries, 500 tons @ \$80	40,000
Asparagus, 300 tons @ \$100	30,000

WASHINGTON THE EVERGREEN STATE



Alfalfa is a good crop and yields from two to four tons per acre without irrigation, and four to eight tons per acre where irrigated

Plums, apricots, berries, potatoes, carrots, spinach, rhubarb, cabbage, beets, lettuce, etc., to the value of	300,000
Live stock, poultry, dairy and manufactured products	3,000,000
Total	\$14,548,500

Walla Walla is the county seat, with an altitude of 975 feet, and a population of 26,000. Whitman College is located there, and a Seventh Day Adventist School at College Place near-by, with a population of 1,000. Waitsburg, with an altitude of 1,293 feet, and a population of 1,600, is another important town in the county, surrounded by a fertile farming valley.

THE PALOUSE REGION

Situated in the extreme central eastern portion of the State, south of Spokane, is the famous Palouse region. This territory contains about 1,350,000 acres of land, nearly 90 per cent of which is of agricultural value.

The elevation ranges from about 1,500 feet above sea level in the western portion, along the Snake River, to 2,500 feet in the extreme eastern part, the country being neither rough nor level, but is com-

posed of rounded-top rolling hills, the soil on top being as productive as the bottom lands.

Fertilizing is unknown, and with the exception of the western portion of the territory irrigation is unnecessary.

The soil is fairly uniform throughout the country, and is chiefly of basaltic loam of fine texture with a clay subsoil.

Parts of this territory have been cropped continuously for over forty years, without the addition of artificial enrichment and without diminution of its productiveness.

Excellent natural drainage is provided by the Snake and Palouse rivers.

This section has an annual rainfall of twenty-five inches in the eastern portion, graduating to about fifteen inches in the western part, and water for domestic purposes can be obtained close to the surface of the ground. An average rainfall of fifteen to eighteen inches seems pitifully insufficient to one accustomed to the precipitation of other localities, but the wonderful ability of this soil to retain and preserve moisture renders this amount ample for the growing and maturing of crops.

While wheat raising is by far the greatest industry in this territory, all other grains thrive equally as

U. S. RAILROAD ADMINISTRATION



Good substantial buildings will be found on many Washington farms

well, and dairying and stock raising are also profitable industries.

Since wheat was the easiest and quickest crop to raise, and the returns were usually good, it was natural to engage first in grain production. The same ideal conditions, however, produce equally fine fruits and vegetable crops.

This section of Eastern Washington produces annually around 20,000,000 bushels of grain, the acreage being fairly well divided each year between fall and spring sown wheat, with best results favoring fall planting, which averages thirty-five bushels, compared with twenty-five bushels an acre for spring sown wheat.

The United States Government, Department of Agriculture, report for the year 1916 shows Whitman County as ranking third in agricultural production in that year, and Adams County has officially designated itself as "the breadbasket of the world."

Oats and barley do remarkably well in this territory, often averaging sixty-five to seventy bushels an acre.

For years all grains have been marketed in sacks, but the bulk method of handling is growing in popularity. Both combine harvesters and stationary separators are used in the harvesting.

The past practice of cropping two years in three is fast becoming unpopular. Many farmers are now

growing field and seed peas on ground they formerly summer fallowed, at very good profit. Conditions for dairying are also good, and dairying, the raising of stock, sheep, swine, and poultry may yet assume an equal importance with grain.

Farmers have found that cattle, sheep, and hogs can be profitably raised feeding on grain and pea stubble until time to be finished for market. It has been demonstrated that pea stubble is a cheap and very desirable winter feed.

While farming without irrigation predominates on the uplands along the Snake River, where water is available for irrigation, immense crops of alfalfa, fruits, and vegetables are raised.

The average yield of alfalfa in this territory is approximately 6 tons an acre, grapes 7 to 15 tons, berries 200 to 300 crates, early potatoes 2 to 5 tons, late potatoes 5 to 15 tons an acre.

The country is adequately provided with transportation facilities, reducing to a minimum the haul for grain to market.

Elevators and grain warehouses are provided at convenient intervals along the railroads.

The grain markets are found on the Pacific Coast and at Spokane, Wash. Small, prosperous flour mills are scattered throughout the territory, providing a ready market for the farmers' grain.

WASHINGTON THE EVERGREEN STATE



Washington farmers have realized good profit from the production of pure bred cattle. These four animals were sold recently at the Annual Shorthorn Breeders' sale, Chicago, for \$11,650

Over 250 miles of state highways have been built and all roads are gradually being improved with gravel and macadam.

Colfax, the county seat of Whitman County, is a city of about 3,000 people, and has the distinction of being one of the wealthiest cities per capita in the United States, the bank deposits being \$1,000 per capita.

The climate is mild and healthful. In the coldest weather the temperature rarely registers below zero, and then only for a few days. Summer nights are always cool, and there is no depressing heat during the day. Spring and fall are long and particularly pleasant. Because of the long seasons, farmers can commence spring work in March, and harvesting generally commences the last week in July, and is over by the first of October.

Social conditions are all that could be desired, and good schools and churches are everywhere established. At Pullman, Wash., is the State College of Washington, devoted to the teaching of agriculture and science, as well as providing a liberal college course.

There are plenty of opportunities in the Palouse region to invest capital or engage in farming, the price of land varying from \$25 to \$125 an acre, depending on location and improvements. The grow-

ing practice of utilizing ground formerly summer fallowed in growing peas results in more diversified farming.

Many farmers in the Palouse country now plant as high as 300 acres of peas each year to save summer fallowing, the profit from the peas equalling as much as \$100 an acre. In addition hogs are fattened on pea stubble, and the straw is used for winter feed for cattle. Growing oats and peas and cutting them for hog feed without threshing is very profitable. Persons desiring to purchase lands can secure necessary information from county farm agents at the county seat.

In no other agricultural region is industry more generously rewarded, a modest fortune more common, prosperity more universal, and poverty unknown than in the Palouse country.

THE BIG BEND DISTRICT

That part of the State of Washington lying west of Spokane and north of the Columbia Basin district, in the bend of the Columbia River, is known as the Big Bend Country. It includes practically all of Lincoln County, that part of Grant County north of Crab Creek, Adrian, Naylor and Crater, and all of Douglas County. It has been a

U. S. RAILROAD ADMINISTRATION



A twenty-six horse combined harvester and thresher with its crew of four men in the great wheat producing district of Washington. Note the excellent buildings and orchard in the background

large producer of wheat and kindred cereals in the past quarter of a century. It has an elevation of from 1,000 to 2,600 feet.

The Columbia River, which marks the northern and western boundary of this area, and the Spokane River, which empties into the Columbia at the northwestern corner of Lincoln County, are the only streams of any size.

Lincoln County has an area of 2,800 square miles, and a population of 25,000. The county is primarily adapted to agricultural pursuits, the leading industries being grain growing and live stock. It is in the heart of the wheat belt of Eastern Washington. The United States Field Agent of the Department of Agriculture in 1917 reported a total valuation of wheat, oats, barley, corn, and potatoes of \$10,329,000, with \$12,000 additional from sales of milk and cream.

For years it has been the common practice to produce a wheat crop every other year, and allow the land to lie in summer fallow during the alternate years. However, it has been demonstrated during the last two or three seasons that it is possible to grow a cultivated crop during the alternate years, in the larger portion of the county, without detriment to the wheat crop. The growing of beans and

peas for the cultivated crop is rapidly gaining favor. This new industry promises an additional source of income.

Along with the production of these leguminous crops comes an increased opportunity for live stock production. There is ample opportunity for the production of double the present amount of live stock.

It is not uncommon, during average years, to produce forty-five bushels of wheat an acre. While the wheat industry occupies a large place in farming activities, the live stock industry is rapidly growing. There are at present a number of breeders of pure-bred Shorthorn cattle, also breeders of pure-bred sheep and hogs.

The principal towns in Lincoln County, all surrounded and chiefly sustained by agricultural pursuits, are Davenport, the county seat; Odessa, where a quarter of a million dollars worth of flour is milled annually; Sprague, near which is located the famous Hercules Stock Farm of 15,000 acres; Wilbur, renowned for its high standard of farm horses; Long Lake, with a hydro-electric plant of 90,000 horsepower capacity; Reardan, with a 400-barrel flour mill; Harrington, with a harvester factory; and numerous other smaller places convenient for

WASHINGTON - THE EVERGREEN STATE



The dairy business has proven profitable for the beginner, as it provides a good steady cash income under most favorable climatic conditions

farmers and having churches, fraternal societies, good schools, and local newspapers.

The northern part of Grant County, which is included in the Big Bend district, is noted for its wheat. From 600,000 to 800,000 bushels of wheat are shipped annually from Coulee City, and over a million bushels in a single year have been shipped from Quincy.

Ephrata, with a population of about 1,000, is the county seat, and is surrounded by wheat and alfalfa fields and orchards.

Douglas County lies east of the Columbia River and northwest of Grant County. The soil is a volcanic ash, ranging from a few to many feet in depth. The farms for the most part are improved and have produced large yields of wheat, ranging from twenty to forty-five bushels an acre, and correspondingly large yields of oats and barley. The rainfall varies from fourteen to eighteen inches. The summers are long and the winters short and comparatively mild. Long seasons for farming operations are enjoyed, and for grain farming alone much larger farms are operated than in grain sections of the East. While formerly much of the land was summer-fallowed each alternate year, the farmers are now devoting some of this land to cultivated

crops and raising alfalfa, corn for silage, and field peas.

The irrigated lands of the county lie chiefly along the Columbia River. In the Moses Coulee section irrigation development has taken place, and additional lands are being rapidly brought under the ditch.

The county seat is Waterville, which had a population of about 1,000.

Spokane District and Northeastern Washington

The district of Northeastern Washington is composed of Spokane, Stevens, Pend Oreille, and Ferry counties, and is economically important because of its wide range of natural resources, including mining, grazing, and water power, and its agricultural industries, including live stock, general farming, fruit growing, and vegetable production.

The topography of the district presents an interesting combination of mountains, valleys, plains, hills, and canyons, with splendid opportunities for the utilization of water for irrigation purposes. The streams and lakes abound in fish and are a sportsman's paradise.



Washington produces successfully a good quality of corn in practically all parts of the State

The principal lakes are Liberty, Loon, Deer, Fish, Little Pend Oreille, Bead, Marshall, and King, and the attractive streams with resort advantages are the Colville, Kettle, Pend Oreille, San Poil, and Columbia.

The climate varies materially with the altitude, exposure, and location, and while as a general rule the snowfall is heavy, the winters are mild and the growing seasons are very long. The annual rainfall varies from 18.85 inches in the region of Spokane to 27 inches in Metaline Falls, and 15 inches at Republic.

The soil, like all western soils over large areas, is extremely variable, ranging from the rich, black, gravelly loam of the Spokane Valley, and the light volcanic ash of the Columbia Valley, to the very rich clay soils of the benches and hills. It is rich in mineral content, cultivates easily, and responds readily to agricultural practices.

Spokane County has all four of the nation's basic industries; agriculture, mining, manufacturing, and lumbering contribute to the wealth of the county, agriculture easily taking the lead in importance.

The agriculture includes general farming, dairying, and stock raising on the prairies and in the hills, and fruit growing and vegetable gardening in the Spokane Valley. This valley, which stretches for

thirty miles east of Spokane to the Idaho line, being approximately four miles in width, is a real farmer's paradise. Most of the valley which has been brought under ditch is now thickly populated, 5 and 10-acre tracts predominating. Over 1,200 families are living in the valley, but there are still several thousand acres not under cultivation and many opportunities await the newcomer.

Clifford F. Oldham of East Farms has a typical farm in this irrigated belt. He has 54 acres and in 1918 had 20 acres in alfalfa, which averaged $4\frac{1}{2}$ tons to the acre. Had he wished to sell all at the prevailing prices he would have made over \$2,500 from the 20 acres. He also had 20 acres in corn, which was cut for ensilage, averaging 15 tons to the acre. His apple orchard of five acres is nine years old, and his net returns from this were \$753, after paying all expenses.

Improved land in the valley is selling for \$250 to \$400 an acre, with the lower figure prevailing. Unimproved land, or land which has been plowed but from which the rocks have not been removed, is selling for an average of \$150 an acre.

Dwellers in the Spokane Valley have all the advantages of city life. A paved highway runs from Spokane through the entire length of the valley, which is also served by two electric inter-

WASHINGTON THE EVERGREEN STATE



The settler need not go far for recreation. The State has many excellent fishing streams, and the mountains are the home of all kinds of game

urban lines. Good schoolhouses have also been erected throughout this district.

While apple growing is the chief industry in the valley, stock raising and dairying are gaining in prominence.

The center of population and of trade in this district is the metropolis of Spokane, with a population of 130,000. This city furnishes an available market for stock and farm and orchard produce from the surrounding districts. During the year 1918 there were 3,049 carloads of stock marketed through the Spokane Union Stockyards, as compared with 1,738 carloads for the year 1917.

Fourteen branch lines and five transcontinental systems make the city one of the most important railway centers in the West, and furnish quick and adequate service for farmers, stockmen, and lumbermen. Spokane absorbs a great deal of the fresh fruits, berries, and vegetables which are grown in the valley, while a number of commission houses are always ready to purchase any surplus. An auto truck system for produce transportation has been established.

Spokane has a well organized educational system, consisting of a university, two colleges, two large high schools, and over seventy graded schools, and many private schools.

The city is taking rank as an industrial center, being supported by approximately 270 manufacturing establishments having an annual payroll in excess of \$8,000,000, and employing 10,000 wage earners.

Stevens County has many resources and they are widely diversified, including agricultural crops, live stock, minerals, and lumber.

The Columbia River Valley from Marcus to old Fort Spokane, generally called the Kettle Falls Valley, is a very fertile, productive area of widely diversified agricultural resources. Its principal crops are fruit, alfalfa, grain, and live stock. Its soil is well adapted to irrigation, and the climate is ideal for home life. The valley is narrow, and its irrigable area small. The bench lands adjoining make good farm land, and the timbered hills and valleys afford ideal pasture for all kinds of live stock.

The Colville Valley, traversing the county from south to north, is a broad, rich area having a deep, moist, fertile soil adapted to the growing of grain, fruit, and forage crops and the production of live stock. It is famous for its timothy meadows, which average from two to four tons per acre. The adjoining timber and cut-over lands afford an excellent range, and when cleared are well adapted to grain farming. These logged off lands are being sold to

U. S. RAILROAD ADMINISTRATION



Washington produces more lumber annually than any other state, and the logging and mill districts furnish a ready market for poultry and farm products

settlers at prices ranging from \$10 to \$20 an acre on long, easy payment terms. A large amount of land can be found here in small mountain valleys, some partly improved, at \$10 to \$15 an acre.

Colville is the county seat and has a population of 1,500 with good schools and churches.

One of the largest deposits of magnesite in the world is located in this county near the towns of Valley and Chewelah. Two companies are operating them at the present time, and their total output for the last nine months of 1918 was 90,500 tons. They employ 450 men. Only one other state in the Union is now producing this commodity.

The most Northeasterly county in the State is Pend Oreille, with an area of approximately 900,000 acres, of which 400,000 are in the Kaniksu Forest Reserve. There are 400,500 acres of surveyed government land and 40,000 acres of state land, leaving approximately 450,000 acres classified as grazing and tillable, and ideally suited to stock raising.

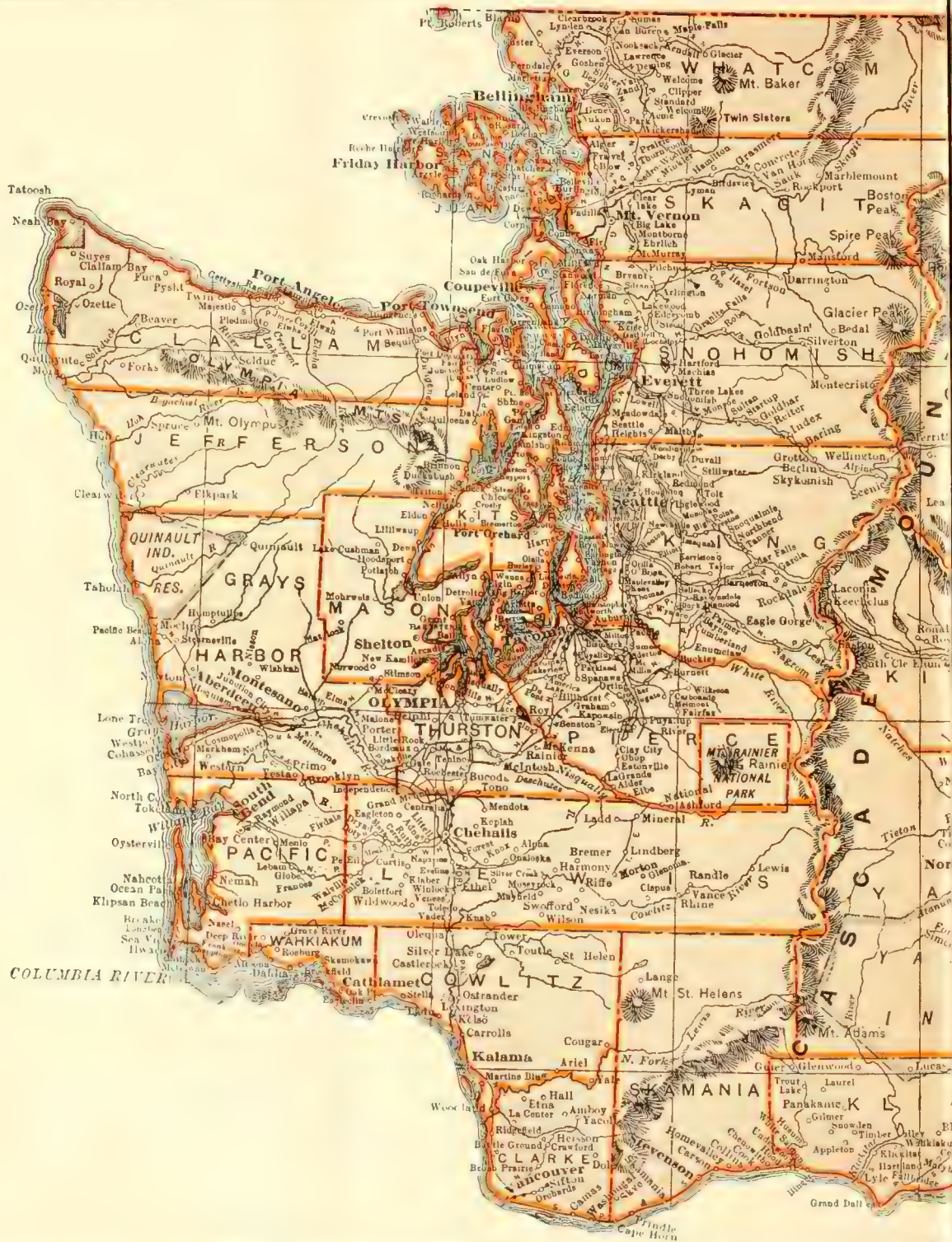
Newport, the gateway of the Pend Oreille Valley, is the county seat, with a population of about 1,700.

One of the most attractive valleys of this county is the Calispell, comprising between 60,000 and 70,000 acres of level, fertile land which produces luxurious growths of grains and grasses, making it

an ideal dairy section. The soil of this district is a deep, rich loam, and the upper lands of red volcanic ash, all suitable to the growth of cereals, vegetables, and small fruits. Land values range in price from \$5 to \$20 an acre for logged off lands, with an estimated cost of \$10 to \$60 for putting them under cultivation, while the improved lands sell at \$60 to \$125 per acre. This is one of the heaviest timbered sections of the State, consisting of white pine, Western pine, tamarack, fir, and cedar. Some of the better qualities and large quantities of cedar poles, posts, shingle bolts, piling, and cordwood are manufactured in Pend Oreille County. Large sawmills are located at the thriving towns of Dal-kena, Cusick, and Ione, and an electrically operated Portland cement mill, with a capacity of 200 barrels daily at Metaline Falls, and when operating at full capacity employ 125 men.

The water power development possibilities of the streams are almost unlimited. The "Z" canyon on the Pend d' Oreille has a maximum power of 120,000 horse power at low stages of the water, with a possible development by means of storage reservoirs of 350,000 horse power.

Ferry County has many natural resources, including mineral, lumber, power and agricultural possibilities. The agriculture of the county includes





WASHINGTON THE EVERGREEN STATE



A typical alfalfa field with orchard in the background. Note the hogs grazing in the field. Alfalfa and hogs are a good money making combination.

grain farming, live stock, and raising of fruits and vegetables, and is specially adapted to live stock. A great deal of land remains for farm development. Grazing land can be bought at \$3.00 to \$5.00 an acre and farm land unimproved at \$10 to \$15 an acre.

Republic, the county seat, is located in the San Poil Valley, which is the center of a rich mining district, abounding in gold, copper, lead, and silver. All the mines are operating and shipping their siliceous ores to various smelters.

THE COLUMBIA BASIN DISTRICT

This district includes all of Franklin County, all of Grant County south of a line drawn between Wilson Creek, Adrian and Crater, and practically all of Adams County, with a small strip of the southern part of Lincoln County, and the extreme western portion of Whitman County.

The Washington legislature has just passed a bill providing for the survey of about three million acres of land in Whitman, Spokane, Adams, Franklin, Grant, and Lincoln counties, of which about 2,000,000 acres of first class land will come under what is known as the Columbia Basin Irrigation Project. This will be one of the largest irrigation projects in the world. The surveys will consume the balance of the present year. The water is

to be taken from Pend Oreille River, using Pend Oreille Lake as a reservoir. The construction cost is estimated at \$79 per acre. This great project will open to intensive cultivation 3,000,000 acres.

Franklin County is an irregular triangular area between the Columbia and Snake rivers. The topography is slightly rolling, rising gradually from the southern to the northern limit by a series of benches. The county assessor estimates that about 50 per cent of the surface is rolling and the remainder level. There are about 500,000 acres of tillable land in the county, and the remainder can be profitably used for pasture. Practically all the unimproved lands are covered with sagebrush.

The soil is chiefly volcanic ash and sandy loam, ranging in depth from two to forty feet, and adapted to wheat raising, which is the main crop in the northern part of the county. The rainfall averages from seven to ten inches annually, and the winters are very mild and short. The water generally used for domestic purposes is taken from wells. In the coulees, water is reached at a depth of from 40 to 100 feet. The Columbia and Snake rivers can both be made to yield a considerable amount of power for industrial purposes.

Pasco, the county seat, is 400 feet above sea level. It has a population of 3,500, and is sup-

U. S. RAILROAD ADMINISTRATION



Every farm should have a flock of sheep. The cost of feeding them is small, and they will return a good profit

ported by a large monthly payroll from employees of the railroads having yards and roundhouses at this point.

Adams County is in the heart of the great wheat belt, and dry farming is practiced in the most thorough and skillful manner. It is exclusively an agricultural county, all of its resources and industries being dependent upon the production of cereals and allied farm products. The census of 1910 shows the population as 10,920. A Russian settlement west of Ritzville has been very successful.

The total area of the county is 1,223,680 acres. Fully 80 per cent of the county is tillable, and the remaining 20 per cent is good for pasturage. The soil in all parts is a volcanic ash, ranging in depth from one to sixty feet, and is ideal for the production of grains. Toward the north and east it is much heavier. The climate is mild and the rainfall is usually sufficient for successful farming. About twelve inches fall at Ritzville and about ten at Lind.

The main crop is wheat, although considerable stock is raised, and farmers are paying more attention to dairying and hog raising, to which the county seems quite adaptable.

Ritzville, the county seat, is a prosperous little city of over 3,000 people, with paved streets, sewer

and water systems and modern department stores.

The soil of Grant County is a volcanic ash, varying in places to a sandy loam mixed with ash. The rainfall is greatest in the northern section. Unimproved land, without water, ranges in price from \$7 to \$10 an acre, and irrigated lands from \$75 to \$250 an acre. Improved wheat land sells for \$35 to \$60 an acre. Several areas of irrigated lands are planted to trees and alfalfa. About 75 per cent of the crop is wheat, which runs between two and three million bushels annually. Oats, irrigated alfalfa, and fruit are also produced. The principal irrigated and fruit section is in the Moses Lake region, where some corn is raised. The county is but 1,000 feet above sea level, and the climatic conditions are ideal for apples, grapes, peaches, small fruits, potatoes, alfalfa, wheat, corn and all small grains, onions, sweet potatoes, cabbage, and celery.

There are now under irrigation, tributary to Neppel and Moses Lake, several thousand acres of land, the system including eight pumping plants. Land under this irrigation system, with water piped to it, is selling at prices ranging from \$100 upward an acre.

(Additional information regarding Grant County will be found under the "Big Bend District.")

WASHINGTON THE EVERGREEN STATE



A nine-year-old apple orchard in bloom. Note the extra props supporting the main branches of the trees. Apple production in Washington passed the experimental stage, years ago

WENATCHEE, ENTIAT, METHOW, LAKE CHELAN AND OKANOGAN VALLEYS

The Wenatchee Valley is in the center of the State and consists of the valley lands along the Wenatchee River for about twenty-five miles from its mouth, along the Columbia at and near the junction of these rivers. It embraces about 30,000 acres of irrigated land, the greater part of which is in orchard, principally apples, watered by gravity for the most part from the Wenatchee River and small streams tributary. Altitude of the principal orchard property ranges from about 600 to 1,000 feet.

The United States Bureau of Markets states that in 1918 the Wenatchee district (including apple-producing areas of Chelan, Okanogan, Douglas, and Grant counties) produced 8,500 cars (750 boxes each) of apples, 44 per cent of the apple crop of the Pacific Northwest, and 35 per cent of the total boxed apple output of the entire country, while the entire State produced about four-fifths of the crop of the Pacific Northwest States.

The most important of the near-by apple-producing districts, included in the Wenatchee district by the State Department of Agriculture for statistical purposes and which are usually considered as marketed through Wenatchee, are the Entiat Valley,

Lake Chelan region, Methow Valley, Okanogan Valley at Brewster, Bridgeport, Omak and Okanogan, Moses Coulee district, and Quincy district in Grant County. Several hundred cars of the total for the district come from these sections, but for the most part their orchards are young and only beginning to produce important amounts.

In addition to apples, the Wenatchee district produces a large number of other fruits, including peaches, pears, apricots, cherries, strawberries, cantaloup, and early and tender vegetables. The shipments of these in 1918 amounted to 1,387 carloads.

Facilities for the handling of fruits by canning and preserving methods are being established at Wenatchee and other points, and in 1918 the following amounts of fruits were handled in this manner: 5,264 tons of apples, 90 tons of peaches, 150 tons of pears, 20 tons of apricots, 50 tons of cherries, and 150 tons of beans. These facilities are only in their infancy. They are turning to profit for the producer important amounts which earlier were permitted to go to waste and loss, but extensive additions in such plants are expected in the future.

These valleys range from one to three miles in width and five miles up in length. The combination of soil, climate, altitude, and water, with the protection from killing frosts of the snowcapped Cas-



The valleys and adjoining foothills provide excellent grazing land for cattle

cedes only a few miles distant, produces a condition unequalled for the production of high-class fruit. No serious loss of crop has ever resulted from late spring or early fall frosts, and as every year brings a crop, the expense of care of orchards is reduced to a minimum by permanent returns, while natural conditions also aid in eradication of fruit pests and diseases and maintaining the high standard of quality of the fruit.

The soil is generally of light color and texture well supplied with elements which promote fruit growth, and for many years little attention was given to soil improvement. The more advanced and progressive producers are now following scientific practices to improve on nature's bounty with appreciable results.

Climate of these valleys is one of the most attractive assets. Summers are long, the last frosts of spring coming late in April and first of fall in October; summer days are warm with only occasional hot days when the temperature goes above 90 degrees; cool nights prevail. Severe wind or lightning or other damaging storms are practically unknown. The autumn season is long, providing ample season for picking and packing the apple crop which usually closes early in November. Winters are comparatively short and mild. Six inches to a foot of snow

occasionally falls but seldom lies long on the ground, and zero temperature is rare. The total annual rainfall is light, being about ten inches, little rain coming in summer months.

Market and distribution facilities are permanently established and skill of the grower in production and preparation of his fruit to a large extent determines his profits and contributes to the high standard of perfection and quality of the Wenatchee apple in the markets. These apples are now found in all important markets of the United States and are rapidly gaining a foothold in foreign markets. More than 1,000 important wholesale centers are now supplied from Wenatchee. Pioneering is passed both in production and distribution.

Very little land for orchard planting is available in the Wenatchee Valley proper and orchard properties are valued at from \$500 to \$1,500 an acre, according to location, varieties, and standard of the orchard.

Wenatchee is the principal town of the valley and the commercial center for all of the surrounding apple-producing districts. It has a population of 6,000 people, several well paved streets, and large business buildings, banks, etc., and every improvement that a modern and prosperous city requires. The business of the city may be gauged by the fact

WASHINGTON THE EVERGREEN STATE



Alfalfa on new irrigated land of North Central Washington yielding over eight tons per acre and three cuttings each season

that the fruit crop handled through this gateway ranges in value from \$5,000,000 to over \$10,000,000 annually.

Cashmere, eleven miles westward, has a population of 1,200 and is a prosperous trading center of the valley.

Leavenworth, twenty-three miles up the valley from Wenatchee, has a population of about 1,600, is at the head of the valley, and is prominent in lumbering and milling. Several large apple box factories here turn the native trees into the millions of apple boxes for the yearly crop of the entire valley and near-by districts, thereby providing this article at a minimum of cost.

Many smaller towns serve the fruit producers as loading stations on the railroad at intervals of four to five miles which reduces to a minimum the haul from ranch to railroad.

NORTH CENTRAL WASHINGTON

Extending northward along the Columbia and Okanogan rivers, the railroad traverses a territory, rich in natural resources, and of which only a small part is developed. Fertile valleys, rolling high-

lands, and mountain grazing areas are devoted to dairying, stock raising, and grain farming.

The irrigated lands lie in the Entiat Valley, Lake Chelan Region, Methow Valley, and Okanogan Valley. Climate, water supply, good soil and drainage, produce large crops of alfalfa, corn, small grains, a great variety of fruits to perfection, numerous vegetables and roots. A long growing season, good transportation and markets, schools, churches, land at reasonable prices and on easy terms, afford an attractive combination for the homeseeker.

Great opportunities now are offered in this section in the direction of stock raising, dairying, and mixed farming that will utilize to the best advantage the hundreds of thousands of acres of grazing lands in foothills and forest reserves in connection with feed and forage that may be produced on the irrigated valley lands. The valleys are flanked on both sides by table and foothill lands for grain raising and grazing, back of which lie several national forests, where cattle and sheep may be grazed for a few cents a head a month. Only a part of the capacity of these grazing areas is now used and large numbers of stock are ranged here during summer months which are produced and winter fed in other portions of the State where more feed is grown.

U. S. RAILROAD ADMINISTRATION



The forest reserve and foothills provide cheap grazing land. Good water and good grass will be found in practically every section of the State

The settler may himself run stock on the range and produce alfalfa, corn, and forage for winter or fattening feed on the newly irrigated areas of the Okanogan Valley, or he may sell his feed at good prices to stockmen who depend on buying winter feed but often must ship their stock to other parts of the State. It is estimated that there are twenty-five acres of range for every acre of irrigable land in the tributary valleys. The raw irrigated land of the West Okanogan district is available for improvement now, but additional lands are expected soon, possibly in 1919, to be brought under irrigation. The grazing land outside of the forest reserves is largely deeded land, but in most cases where not suitable for cultivation in important areas, can be bought for \$3 to \$8 an acre or leased at a nominal price. Good pasture may be secured adjoining present or prospective irrigated areas so that the stock-raising business may be conveniently conducted from a home on irrigated land.

In the Lake Chelan, Methow, and Okanogan valleys, especially at Brewster, Bridgeport, Okanogan, and Omak (the last two towns being in the United States Reclamation Project of 10,000 acres) several thousand acres of orchard are now rapidly maturing.

The growing and non-producing period of the orchards is almost past and these districts are now entering the profit-making period of apple growing.

Climate of the valleys of this entire region is very similar to that of the Wenatchee Valley, but in the highlands on either side the valleys, summers are shorter and winters less mild as the altitude increases.

THE COLVILLE RESERVATION

The south half of the Colville Indian Reservation, comprising 600,000 acres, lies on the eastern side of the Okanogan River in Okanogan and Ferry counties. Excluding Indian allotments, timber and mineral reserves, this reservation was opened to homestead entry in 1916. Here are good opportunities for live stock and grain farming, either by direct purchase, or the leasing of Indian allotments.

The Molson country in the extreme northern part of Ferry County produces grain and live stock. Wheat yields from twenty-five to forty and oats forty to eighty, bushels an acre. The altitude averages 3,500 feet.



Truck gardening is an important and extremely profitable industry in the Puget Sound country and the farmer finds a ready market for his products in the larger cities and towns

THE PUGET SOUND COUNTRY

The world's shipping enters the very heart of Western Washington, through the Strait of Juan de Fuca into Puget Sound, a vast inland sea, and practically one large and safe harbor. Between this great body of salt water and the Cascade Range of mountains are the counties of San Juan, Island, Whatcom, Skagit, Snohomish, King, Pierce, and Thurston. Here will be found a happy combination of soil, climate, water, and conditions favorable for ideal home life not surpassed in this country. This is due to the winds from the Pacific Ocean which prevail over this region, making it cool in summer and mild in winter.

The Puget Sound customs district ranks second in the United States.

Seattle, the metropolis of the State, has a population of approximately 350,000. It has in Lakes Union and Washington, connected by government built canal with salt water, the largest fresh water harbor in the world. The steel and wooden ship building industry has assumed vast proportions at Seattle, Tacoma, Everett, Olympia, Bellingham and Anacortes.

The University of Washington at Seattle has a A-1 ranking by the Association of American Uni-

versities and its degrees are recognized all over the world.

San Juan County, the smallest in the State of Washington, has as fine farms as can be found anywhere, located in valleys once heavily timbered. This county is composed of 132 islands of which San Juan, Orcas, and Lopez are the largest and together contain 75 per cent of the population, and most of the available agricultural land of the county. Between mountain ranges of various heights—from 200 to 2,400 feet above sea level—are many splendid areas of rich, alluvial soil ideal for agricultural and horticultural pursuits, much of which is now in cultivation. In portions of each section are to be found much rich beaver dam, bottom and prairie land. Oats yield as high as 125 bushels, and potatoes ten to fifteen tons, an acre. Land values range between \$10 to \$50 an acre unimproved. The eastern portion of the county, where most of the farming is done and available, has a most agreeable climate. There are more sheep in San Juan than any other Western Washington county. Choice apples and berries are produced in abundance on these islands.

A natural resource is the immense, almost chemically pure deposits of lime, which occupy first place in manufacturing revenue.



The Puget Sound district produces an abundant crop of corn. Note the height of this corn

Friday Harbor, at an elevation of seventy-five feet above the Sound, is the county seat with an approximate population of 1,000 and it is a fishing and farming center.

Island County has a population of about 6,000, with an acreage of 12,000 acres of farming, and 50,000 acres of cut-over, land. Whidby and Canano are the two largest of a group of islands which form this county, the former containing the largest quantity of agricultural lands of which 8,000 acres are under cultivation. There are large areas of partially cleared lands, possessing attractive opportunities for settlement and cultivation.

Fruit is the leading product of which berries form an important part and have a ready sale and net the growers from \$300 to \$500 an acre. Dairying is an important industry with excellent returns and a steady market.

Coupeville, with 500 people, is the county seat, while Langley is the metropolis in the center of the farming area.

Whatcom County. The northwestern county of the State is Whatcom, whose county seat is Bellingham with a population of 40,000. Lumbering and logging operations are of leading indus-

trial importance. Bellingham has the largest salmon cannery in the world, and there are ten other canneries at Bellingham and Blaine.

The flax industry in Whatcom county promises so well that the Bellingham Chamber of Commerce is now raising a \$50,000 fund with which to provide a flax mill.

A Government bulb farm where all kinds of tulips, hyacinths and other bulbs are raised, has been established for several years near Bellingham. The soil and climate here combine to make bulb growing ideal.

One of the three State Normal Schools is located at Bellingham. A large cement plant produces cement for roads and construction purposes throughout the Northwest.

Whatcom county has one of the largest Co-operative Cow Testing Associations in the United States, with 1,200 cows owned by sixty dairymen. It also has a good Dairymen's Association and several Cattle Breeding Clubs, and a strong Poultry Organization. Two large Milk Condenseries are located at Ferndale and Nooksack, and numerous creameries are scattered throughout the county. Pasture begins early in the spring, and lasts until

WASHINGTON - THE EVERGREEN STATE



A typical Washington strawberry patch. The soil and climatic conditions of the State are well adapted to the growing of strawberries and they find a ready cash market, producing an average income of \$300 per acre

November, and frequently as late as December. The farmers around Linden received a good average price per pound for butter fat during 1918. The county has 150,000 acres in farms, one-third of which are improved. There are 150,000 acres of logged-off land which can be bought on reasonable prices and terms, from lumbering and logging firms, who have removed the timber. Improved river valley land sells for \$200 to \$300 an acre. Other improved land is worth \$75 to \$150, and logged-off land ranges from \$5 an acre, up.

Skagit County whose name was derived from the Skagit river, the second largest river in the State, is one of the richest counties in natural resources. Anacortes, the largest town and seaport, population 7,000, has fifteen fish canneries and by-products plants and ten lumber and shingle mills. Mount Vernon the county seat, 4,000 population, Sedro-Woolley, 3,500 population, Burlington, LaConner, Hamilton, Concrete, Big Lake, and Clear Lake are other principal towns.

The LaConner flats average 120 bushels of oats an acre, and run as high as 150 to 180 bushels. Cabbage seed is raised near LaConner and is shipped to Eastern seed concerns in carload lots every fall.

An acre yields from 700 to 1,800 pounds of seed. Concrete has two, million-dollar cement plants and the county is well served with steam and electric railroads, also has a good system of hard surfaced roads. Two large condensed milk plants are located at Mount Vernon and one at Sedro-Woolley. Dairying is a leading industry. Logged-off land can be bought for \$10 to \$40 an acre with a small cash payment. Any energetic man with a little capital can establish a profitable dairy farm on such land and make money by purchasing forty acres, clearing five acres, with thirty-five acres in stumps burned over and sowed to grass. A settler can begin thus and, perhaps, have a second forty-acre tract in reserve to develop after the first is under control.

Timothy hay is an important crop on the flat land. The dyked land comprises 40,000 acres on which grain and seed yields constituting world's records are made.

Snohomish County whose principal seaport and county seat is Everett, a manufacturing and railroad city of 40,000 population strategically situated as to water and rail transportation, has three

U. S. RAILROAD ADMINISTRATION



One of the twelve milk condensing plants in Washington. The State leads all others in the production of condensed milk at the same time supplying a splendid market for the dairyman

transcontinental railroads, steamer service to all points, and interurban trains to Seattle.

Everett is appropriately called the "Smokestack City" by reason of its large lumber and shingle manufacturing plants, steel ship yards, wood pulp paper mill, iron works, fish canneries and varied manufacturing industries and railroad shops. A fruit and vegetable cannery is being established at Everett to manufacture jellies, fruit juices and canned fruit.

There are 128 lumber and shingle mills in Snohomish County. The lumber output in the Everett mills alone is 3,000,000 feet daily.

Snohomish, 5,000 population, is the second in importance, and is situated at the head of navigation on the Snohomish River and is served by three trans-continental railroads and an interurban line to Everett. Other important towns are Monroe, Arlington, Sultan, Marysville, Granite Falls, Edmonds, Index and Skykomish.

The fertile valleys of the Snohomish, Skykomish and Sultan rivers produced record yields of fruits, vegetables and diversified crops. Dairying is the principal agricultural industry. There are three

large milk condensers at Monroe, Stanwood and Snohomish, whose canned product goes to near and distant markets in carload quantities. There are 16,000 cows in the county, and room for several times as many. The county has a remarkable pasturage record, being strong and continuous throughout the year. The Snohomish County Farm Bureau working with the county agricultural agent has a representative from every farm organization and district in the county.

Blackberries, cherries and pears are very profitable. Blackberries average 6,000 pounds, and frequently as high as 10,000 pounds, to the acre. A man can make a fine living on a ten-acre tract of berries and other small fruits. There has never been a failure in the raspberry crop in the past twenty-five years. The rolling uplands are in a logged-off condition and adapted to pasturage, fruit and intensive agriculture. There are 400,000 acres of good farm land in Snohomish County within twenty to thirty miles from the large Seattle market, and not over one-tenth of this area is as yet developed. Land prices for small tracts, cleared and close to transportation and towns are \$250 to \$300



Dairy conditions of Washington are particularly desirable and profitable owing to the mild climate, good water and pastures

an acre, and for raw, uncleared uplands, \$20 to \$80 an acre, according to location.

King County of which Seattle is the county seat, may be said to be the home of the small farm, the average size being less than forty acres. Dairying, small fruits and gardening by intensive methods are the chief farming pursuits. The producers enjoy the advantage of the large near-by Seattle market, with its excellent transportation facilities to all parts of King and other counties.

This county has 25,580 milch cows and dairying is the principal agricultural industry in King County and throughout the Puget Sound country. An average of \$10 a cow, for every month in the year is a very conservative return in this favored climatic region. Holsteins are the favorite dairy cow. Pure-bred cattle from this region have taken highest premiums and have wonderful milk production records. Mild, temperate winters, cool, ideal summers, inexhaustible sources of pure fresh water, are contributory factors to successful dairying.

Truck gardening is profitably followed on the fertile bottom lands between Seattle and Tacoma and Everett.

Poultry is a coming industry. The world's

champion hen, a white Leghorn, bred at Kent, produced 311 eggs in 365 days, breaking the world's record. Many large, modern poultry farms as well as numerous small ones are being profitably conducted with an ever ready market at good profit.

Mines in King County produce coal by train loads, daily, which is consumed locally and is exported to California and also used by coastwise and foreign steamers.

Seattle has a large Union Stock Yards and two large meat packing plants. Live-stock, including pork, has to be imported from western states as the state production is far under the demand. Only 10 per cent of the pork products consumed within the State are produced here.

Pierce County is the third county of the State in population, wealth and business. It has the greatest variety of elevation of any county in the United States, varying from tide water to Mount Rainier in the southwestern part, 14,408 feet. The climate and topography are similar to Southern England. The population is 175,000, of which 125,000 are in the city of Tacoma, the county seat and third largest city in the State. Tacoma has a fine harbor with large ocean docks,

U. S. RAILROAD ADMINISTRATION



The larger cities and towns in Washington furnish a ready market for poultry products.
Poultry will furnish a good, steady cash income

and a large high school with a stadium of 30,000 capacity. Camp Lewis the noted western United States cantonment of about 70,000 acres is just outside of Tacoma. Out of a land area of 1,000,640 acres, there are 323,220 acres in National Parks and Forest Reserves; 57,075 acres are in state and other reservation lands. In farm area 160,000 acres are occupied, of which 45,000 acres are improved. Land prices vary, depending upon location to near-by cities and soil depth. Prairie land sells for \$15 to \$75 an acre; logged-off land, \$20 to \$50, when cleared \$100 to \$300. River bottom land sells for \$200 to \$500 and as high as \$1,000 when extensively improved. This land is highly developed and especially adapted to berry growing. The soil is varied. The largest area is mostly alluvial muck loam and rich with decayed vegetation. The depth is one to twenty feet with clay or sandy subsoil and no hardpan.

The average length of the growing season is 249 days. One-half of the rainfall occurs between November and February. There is very little rain from July to October. Improved highways total 1,700 miles. Ocean-going craft regularly take export cargoes to the Orient and other world ports.

Pierce County has nearly ten billion feet merchantable timber and a coal production of 800,000 tons annually. It is one of the most successful berry-growing regions in the world with facilities for marketing through co-operative associations and canneries. Raspberries, blackberries, strawberries, loganberries, gooseberries, and currants lead in production.

Thurston County with its thousands of acres of logged-off uplands, bottom lands, and prairies not yet developed, offers exceptional opportunities to homeseekers interested in agricultural and horticultural pursuits. Large areas of the gently rolling logged-off uplands await the clearing up process to convert them into productive farms. Forage crops grow luxuriantly and dairying has established a permanent place for itself. Small fruits are rapidly increasing in extent. The land and soils are well adapted to this branch of fruit growing, and owing to the large cannery at Olympia it is popular and profitable. The bottom lands comprising the river valleys and old lake beds are very fertile. When drained, all crops do exceedingly well and here are located the largest dairy farms. Grain and truck farming are extensively practiced on these tracts.

WASHINGTON THE EVERGREEN STATE



A prune orchard in Southwestern Washington. The State produces millions of pounds of dried prunes annually

Some of the characteristic farm yields are as follows: Oats, 150 bushels an acre; peas, 30 to 40 bushels; potatoes, 200 to 300 bushels; mangels, 40 to 60 tons an acre. Three to four thousand acres of equally as good land are lying idle owing to the lack of adequate drainage.

Olympia is the county seat, the capital of the State, and the head of navigation on Puget Sound. There are two railroads and necessary steamer routes connecting it with other parts of the State. A Thurston County Farmers' Organization has been granted the exclusive right to furnish milk and vegetables to Camp Lewis, sixteen miles from Olympia, in Pierce County, one of the largest cantonments established by the Government as a result of the war.

SOUTHWESTERN WASHINGTON

Southwestern Washington includes that portion of the State west of the Cascade Range of mountains, south of Olympia to the Columbia River, and west to the Pacific Ocean. Thus it extends in altitude from sea level to the summit of the Cascades at the eastern boundary line of Lewis County.

Some of the most famous beaches are to be found

on the coast of Pacific and Wahkiakum counties. This area is generally noted for the remarkable fertility of its soil and the settlers who have engaged in agricultural pursuits for many years in Southwestern Washington find that it is an ideal country for the growing of grain and grass for dairying purposes and small fruits and vegetables. Some of the larger vegetables on exhibit at the fairs, land shows, etc., in the Pacific Northwest are grown in Southwestern Washington.

The area consists of Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania, and Wahkiakum counties.

Clark County has an area of 600 square miles; is watered by the south fork of Lewis River and Washougal River. It is one of the oldest and best improved counties in the State, and is an extensive farming section. The country slopes gently back from the river, rising to rolling foothills.

While it has always ranked high in stock raising and dairying, prunes, pears, cherries, and berries are leaders. Soil and climate are well adapted to the growing of walnuts and filberts. The county produces annually 10,000,000 pounds of dried prunes. Three large prune-packing plants are located at Vancouver, Wash., as well as one of the largest fruit and vegetable canneries in the State. The

U. S. RAILROAD ADMINISTRATION



Sheep grazing in Southwestern Washington. Mild climate and good pastures enable sheep to graze practically the entire year.
Every farm should have a flock of sheep

products of these plants go to all of the United States and foreign countries.

In dairying it is rated as fourth in the State in number and value of milch cows. The average yearly production is 8,640,000 gallons of milk. Portland creameries, being located conveniently near, draw heavily on Clarke County for cream.

Onions, potatoes, and all other root crops are grown successfully. Soil is of sandy loam along the lower lands, and the uplands are fertile from natural formations of decayed vegetation. The rainfall is abundant and sunshine supplies all that is required for prolific plant life without irrigation. Timber resources are its greatest commercial asset. Saw-mills are thickly located throughout the county, the value of output running into millions of dollars.

The county is provided with ample transportation facilities. There also is daily steamboat service between Portland and The Dalles, Oregon, touching at all Columbia River towns. Inter-urban electric trains penetrate a portion of the central part of the county.

Vancouver with a population of 20,000 is the county seat. It is on the Columbia River, six miles distant from Portland, being connected with that city by the Interstate Bridge over the Columbia River, a part of the Pacific Highway.

Camas, located in the eastern part of the county, has a population of 1,600. Large paper and pulp mills are located here employing 800 people.

Cowlitz County is about midway in the valley between the Cascades on the east and the lower coast range on the west. The general slope is southwest toward the Columbia River, to which it is drained, chiefly through the Cowlitz and its tributaries, the Cowlitz River being one of the largest in the State.

The eastern part of the county is occupied by the foothills of Mount St. Helens, while the remainder is composed of rolling and flat agricultural lands.

In this county is located the Columbia Forest Reserve of 60,800 acres. The unreserved government lands, designated as timber and agricultural, amount to 4,470 acres, and the state, school, and grant lands aggregate 72,481 acres. There are in the hands of private owners nearly 600,000 acres, of which 80 per cent is tillable.

Fruits, berries, vegetables, and grain grow readily and reach a high degree of perfection. Unimproved lands sell for \$10 an acre and up. Improved lands bring higher prices. There are still nearly 300,000 acres of thickly growing timber in the county. This and the rich farm lands constitute the main

WASHINGTON—THE EVERGREEN STATE



Cabbage on logged-off land —note the size of the heads. The cut-over land is inexpensive and very productive

resources, lumbering being the principal industry, with dairying and fishing gradually increasing in importance.

Kalama is the county seat, with a population of 1,500, an altitude of twenty-one feet, and the location of three state fish hatcheries.

Klickitat County is a long, rather narrow strip of country lying in the south-central part of the State; has a total area of 1,168,000 acres, of which 32,000 are in the Columbia Forest Reserve and 65,280 in the Yakima Reservation. Approximately 900,000 acres are in private ownership. About half of this is in farms, but only one-quarter improved.

The county is divided into an agricultural and a horticultural section. The western part, comprising the White Salmon and Klickitat valleys, is across the Columbia River from the famous Hood River Valley of Oregon. The lands are mountainous and rolling, covered with fir and pine. Many plateaus and small valleys have been developed into all kinds of diversified farming.

Climatic and air drainage conditions have favored this section in growing all kinds of fruits and berries, chiefly apples, pears, peaches, cherries, and strawberries. The famous White Salmon Valley and

Klickitat Valley fruit is well known in all parts of the world for its delicious flavor.

Soil is volcanic ash on the lower levels; on the upper land, red shot loam, in some sections there being some clay and black loam. Climate is ideal, the rainfall averaging from thirty to thirty-five inches. Dry farming is usually practiced, the moisture being sufficient to produce excellent crops without the aid of irrigation.

The county is watered by the White Salmon River on the western boundary and the Klickitat River flows into the Columbia River in the central part. These rivers offer great possibilities in developing electrical power and irrigation systems. Already two electrical power generating plants are in operation on the White Salmon River, supplying light and power to the near-by towns, as well as Vancouver, Wash., and Portland, Ore., a distance of seventy-five miles.

The upper portion of the White Salmon Valley naturally subdivides into fertile sections known as Trout Lake and Camas Prairie. This district has made much progress in dairying. Upwards of 100,000 head of sheep are ranged annually in the forest reserve land.

U. S. RAILROAD ADMINISTRATION



Logged-off farm land in Washington. Note the excellent rolling country and plenty of wood for fuel and buildings

The eastern portion of the county, beginning at Goldendale, extending eastward, is chiefly devoted to farming. The land is rolling, with little timber. Upwards of 1,000,000 bushels of grain are harvested annually. Great opportunities offer in developing irrigation and much may be expected in this line.

In the live stock industry, hog raising predominates by reason of natural conditions, making it possible to grow the feed necessary for fattening, and sheep raising has long been profitable.

Many small towns and settlements are scattered throughout the county, chiefly among them being Goldendale, county seat, population 2,000; White Salmon, population 800; and Lyle, population 300.

The county is well provided with schools, commercial clubs, fruit growers unions and farmers granges.

Lewis County extends from the summit of the Cascade Mountains on the east to the divide between the Cowlitz Valley and the Pacific Ocean slope on the west, containing 2,369 square miles. The climate is exceptionally mild, both in winter and summer, due to the Japan Current.

Berry canes, small fruit trees and bushes make a continuous growth through the winter months, and the exceeding mildness of the climate is accountable for the numerous fir and cedar trees in the forests.

The fertile valley and hill lands raise excellent fruits, and berries are unsurpassed. Potatoes and all root crops make a heavy yield. Oats, barley and all grasses grow luxuriantly, affording ideal conditions for dairying, poultry raising and other lines of farming. There is yet room, in Lewis County's two million acres, for a thousand more dairy and poultry farms.

There are several kinds of soil in Lewis County. Near the rivers the valleys are a sandy loam. On the up-lands and hills a fertile clay loam and in the eastern part of the county, approaching the mountains, the soil is a volcanic ash and very fertile.

The National Forest Reserve contains 483,880 acres. The private timber lands are approximately 500,000 acres, holding nearly twenty billion feet of merchantable timber, while the reserves have been estimated to contain an equal amount.

The cut-over land can be purchased for \$5 to \$15 an acre and up. Land clear of stumps and level, and variously improved, sells at from \$50 to \$300 an acre. Products quickly reach a ready market, and large canneries preserve the surplus fruit for future sale.

Chehalis, 8,000 population, is the county seat, on an altitude of 188 feet, while Centralia, two miles distant, has a population of 11,000.

WASHINGTON—THE EVERGREEN STATE



A prosperous farm in Southwestern Washington. Good crops are grown here without irrigation and crop failures are unknown

Pacific County is most southern in the tier of counties facing the Pacific Ocean. It surrounds Willapa Bay, and extends eastward to the headwaters of the streams which flow into it. The land area in the county is 895 square miles. Of the 572,800 acres of land within the county, 41,921 acres are state lands while the remainder, excepting a few acres of Government land, has passed into the hands of private owners.

Not included in the above area, there are in Willapa Bay and its tributary rivers, about 25,000 acres of rich tide lands, suitable for agriculture, and 15,000 acres of oyster grounds. Of the other lands not more than 50,000 acres are in farms. Altogether, about one-half of the county is suitable for agriculture, either timber land or bench land.

The peninsula forming the western boundary of Willapa Bay is flat and low, and contains between three and four thousand acres, adapted to cranberry culture, an industry which bids fair to increase in importance. The largest developed cranberry bogs on the Pacific Coast are at Ilwaco. There are near-by also, the largest area of undeveloped bogs, including several thousand acres within a few hundred yards of one of the finest ocean beaches in the world and a place which furnishes industry

for the settlers, as well as an ideal summer resort.

The soil in the valleys is a rich sandy loam. On the benches it is a black loam, comprised largely of accumulated vegetable decay. It is from one to fifteen feet deep and has a subsoil of yellow or blue clay. Unimproved land may be purchased at prices ranging from \$10 to \$15 an acre. Improved it would cost from \$100 to \$250 an acre.

The chief resources in the county are its heavy timber, its oysters and salmon fisheries and its fertile dairy and truck gardening land. About 350,000,000 feet of lumber are manufactured yearly, while the standing timber amounts to about thirteen billion feet. The annual revenue from the oyster business in Pacific County is \$1,000,000 and from salmon fishing, \$150,000. Dairying and truck gardening each produce about \$100,000 a year.

Rail and water transportation provide ample facilities for present needs of the farmers of the county. County roads, good at all seasons of the year, extend in various directions.

The main products enumerated are sold in the markets of the world, while Raymond and South Bend consume practically all the dairy and farm products at the present time.

Skamania County is in the heart of the ever-



Salmon fishing in the Pacific Northwest. Fishing is the principal industry in some of the coast counties

green Cascade Mountains. It slopes from Mount St. Helens and Mount Adams, southward to the Columbia River, which bounds it for forty miles on the south. Much of the country is mountainous, covered with dense fir and pine forests. Of the entire area of 1,078,400 acres, the Government has taken 868,500 acres into the Columbia and Rainier National Forest Reserve. Much of the reserve contains choice agricultural land.

Large areas of logged-off land is available, admirably drained and suitable for agriculture and fruit raising.

Timber resources are its greatest commercial asset, sawmills being thickly located. The timbered areas can easily be converted into good yielding farms after the timber is logged off.

Stevenson is the principal city, with a population of 500 people, and is the county seat. Other towns are, Carson, Cooks and Underwood.

Wahkiakum County is in the southwestern part of the State, fronts on the Columbia River, giving it upward of thirty miles of shore line. Large areas of timber have been logged off, enabling the clearing of much of the bench and bottom land.

The county contains a total of 170,880 acres and much of the land in the valley is improved.

This region is particularly adapted to dairying, which may be largely extended by clearing the rich muck bottoms and first bench lands in the already logged-off area. It is estimated there are 30,000 acres of such lands. The up-lands are generally rich clay loam and sandy or gravelly loam adapted to growing all kinds of root crops.

The rainfall varies from forty to sixty inches. In winter there is seldom freezing weather, while the summer temperature seldom exceeds 80 degrees.

The chief industries in their order are: Lumbering, fishing, dairying and farming. There is room for considerable extension in these industries. Four salmon canneries are in operation during the fishing season with total normal pack of 200,000 cases canned salmon. There are several cooperative creameries.

The movement of crops and other products is by passenger and freight steamers, which ply daily between Portland and Astoria touching at all river towns, which affords excellent transportation service.

Principal towns are: Cathlamet, the county seat, population 400; Skamokawa, population 350. Other towns are, Oneida, Grays River, Deep River, Altoona, Brookfield, Pillar Rock and Roseburg.

WASHINGTON THE EVERGREEN STATE



Lumbering is an important industry in Washington and the State has the largest body of standing timber of any state in the Union. The ship timbers in this picture measured thirty-seven inches by seventy feet

THE OLYMPIA PENINSULA

The Olympia Peninsula comprises all of the counties of Clallam, Jefferson, Mason and a portion of Grays Harbor County, and lies between Puget Sound and the Pacific Ocean. It is very mountainous in character, and contains wonderful forests of fir and spruce. It is in many respects the most scenic district on the North Pacific Coast. The State has dealt most generously with road construction plans in order that the wonderful scenery and natural resources might be available to the general public.

In the extreme northwestern corner of Clallam County (Cape Flattery) the annual precipitation is about 120 inches, while in the northeastern portion of the same county near the mouth of the Dungeness River in the district of which the town of Sequim is the business center, the annual precipitation is from nineteen to twenty inches, and irrigation has been practiced for more than twenty years past. Such paradoxical conditions are not easily explained in print, but must be seen to be appreciated.

Mason County has an area of about 900 square miles, with an average altitude in farming sections

ranging from sea level to 100 feet elevation, and a population of approximately 10,000 people. Lumbering is the main resource. There is upwards of six million feet of standing timber and the leading industry is logging, with a payroll of about two million dollars per annum. Dairying and stock raising are largely engaged in, in the districts back from the Sound. Dairying and clam beds and fishing produce large revenues. Vineyards are located along the shores on the mainland and on Harstene and Stretch Islands, and thousands of baskets are shipped annually to Seattle, Tacoma and other markets, a grape juice plant being located in the grape growing section. The 1918 crop netted the growers from \$300 to \$500 per acre. Shelton, with a population of about 1,600, is the county seat. Other towns are Detroit, Allyn, Arcadia, and Matlock.

Grays Harbor County, in Southwestern Washington, contains about 820,000 acres, half the acreage being logged off and tillable, but only about 29,000 acres are actually farmed. Logged off lands sell at prices ranging from \$10 to \$20 per acre, back from transportation, while nearer the towns, partially cleared lands sell from \$100 to \$200 per acre. More attention is now being given to farming.

U. S. RAILROAD ADMINISTRATION



Washington produces some of the best beef cattle in the country and good grazing land may be secured cheap

There are some 9,000 head of live stock, with room for 100,000 head of dairy cattle, if full advantage were taken of the county's farming resources. In 1917 the milk production was 592,391 gallons, with a value of \$171,784.30; cream production 24,299 gallons, valued at \$36,652.60; making a total value in dairy products of \$208,436.90. The county ranked fourth in milk and cream production in the State.

In 1917 the county produced 195,000 bushels of potatoes from 1,300 acres, at a value of \$179,400, and 160,000 bushels of oats valued at \$129,600. General farming is as yet in its infancy in Grays Harbor County. Its agricultural growth is assured. There is one hundred billion feet of standing timber in this county tributary to Grays Harbor, which is being gradually logged off, and a large percentage of this land is ideal for pasture grass and, consequently, dairying.

Oysters, crabs, and clams constitute large revenue producers, abounding in large quantities in the Grays Harbor and on the county's sixty miles of ocean beach. The Grays Harbor whaling station yielded, in 1912, a revenue of a half million dollars from 210 whales.

The mean annual maximum temperature is 58.9 mean annual minimum temperature, 41.2.

Montesano is the county seat with a population of 3,500; Aberdeen, the metropolis, with a population of 20,000, and Hoquiam, two miles distant and connected by a trolley line, has a population of 12,000.

Grays Harbor County has adequate railroad transportation.

Kitsap County has a population of 40,000 and about 225,000 acres of ideal available farm land of which 50,000 are now farmed. The soil is exceedingly fertile, berries, hay, and vegetables being the most prolific. It is of sandy loam and shot clay with occasional strips of rich alder bottom lands. There are some cranberry beds in this county. Unimproved lands sell for \$15 to \$75 an acre, while cleared lands bring from \$100 to \$500. The clearing of these lands costs from \$75 to \$200 an acre. All lands are within easy reach, scarcely more than six miles distant from harbors or market. The elevation averages 100 feet above sea level, and practically all of this county is surrounded by sea water, transportation to and from the county being by boat.

WASHINGTON THE EVERGREEN STATE



A typical pea field and uncleared section of a Washington farm. Stump land may be purchased cheap and when cleared will produce the best of crops

Poultry raising and truck farming are practiced to great profit. Cattle, sheep, and hog raising are increasing.

Port Orchard, at sea level, is the county seat, with a population of 1,500.

The United States Government at Bremerton (the location of the Puget Sound Navy Yard) has a permanent investment of \$32,000,000 and employs 6,000 people. It is the Pacific Coast naval base.

Bremerton is the metropolis with a population of 10,000, owning its own wharves. Kitsap County has the greatest number of miles of water frontage of any county in the United States, and numerous deep and well sheltered harbors.

Clallam County, the most northwestern in the State, has 150 miles of water front, with numerous splendid harbors. The occupied lands, 62,240 acres according to the 1910 census—but 16,000 acres improved—lie chiefly along the Strait of Juan de Fuca and coast shores. Much of the county is rugged and mountainous, and all has been heavily timbered. The population is approximately 15,000. The soil is from one to ten feet in depth, particularly adapted to dairying, fruits, and berries, and ranges in price—unimproved from \$10 to \$50 an acre, and improved from \$75 to \$300 an acre. Rainfall

ranges from 20 to 100 inches, the greater portion being in the southwestern corner of the county. The shores and inland lakes of the northern section are ideal for summer and health resorts.

Dairying is one of the principal industries. Clallam County has railway and water transportation.

Port Angelus is the county seat with 6,000 population. Other towns are Sequim, around which general farming and dairying is done; Dungeness, the home of Dungeness crab; Port Crescent, a lumbering, dairying, and general farming and fishing section.

Jefferson County, lying between Puget Sound on the east and the Pacific Ocean on the west, contains about 2,000 square miles of land, a large portion of which is included within the area of the Olympic Forest Reserve. Its population is 16,000. The land is a rich deposit of organic soil in small deltas and valleys formed by the streams, and agricultural and dairy pursuits are very profitable, land values ranging from \$10 to \$50 an acre unimproved, and improved from \$100 to \$300 an acre. There are scarcely any limits to the possibilities for dairying and stock raising here. Pure water is abundant



The irrigated district of Northwestern Washington. Note the canal in the lower part of this picture

everywhere, and thousands of horsepower are undeveloped up to the present time.

This county is served with twenty-six miles of railroad. Navigation companies operate between this, Island County and Seattle, and Bellingham.

Port Townsend is the county seat, with a population of 6,000, located on Quimper Peninsula at the entrance of Puget Sound, and is a base for United States coast artillery revenue cutter service, marine hospital service, quarantine and hydrographic service, and has large salmon canneries, a fertilizer manufacturing plant, sawmill and numerous wood working plants, including boat works.

Chimacum is a wonderful dairy section and the location of one of the famous registered Holstein-Friesian herds of cattle.

Progressive men, looking for a new home, will bear in mind the important fact that Washington is *not* a ONE-crop State; that it produces a great diversity of crops; that climatic conditions are, on the whole, excellent; **that opportunities in the United States are not excelled in any country in the world.**

Washington offers special opportunities that you, for your own best interests, should investigate.

Vacation Outings *in the* National Parks

"The Nation's Playgrounds"

Your National Parks are a vast region of peaks, canyons, glaciers, geysers, big trees, volcanoes, prehistoric ruins and other natural scenic wonders.

VISIT THEM THIS SUMMER

for fishing, mountain climbing and "roughing it."

Ask for descriptive illustrated booklet of the National Park or National Monument you are specially interested in—here is the list: Crater Lake, Ore.; Glacier, Mont.; Grand Canyon, Ariz.; Hawaii; Hot Springs, Ark.; Mesa Verde, Colo.; Mt. Rainier, Wash.; Petrified Forest, Ariz.; Rocky Mountain, Colo.; Sequoia, Cal.; Yellowstone, Wyo.; Yosemite, Cal., and Zion, Utah.

Address

Travel Bureau, U. S. Railroad Administration
646 Transportation Bldg., Chicago, Ill., or
143 Liberty St., New York City, or
602 Healy Bldg., Atlanta, Ga.



A fruit-growing district of Washington. Good soil, climate and water and the protection from killing frosts assure the farmer of an abundant crop of apples and other fruits each year

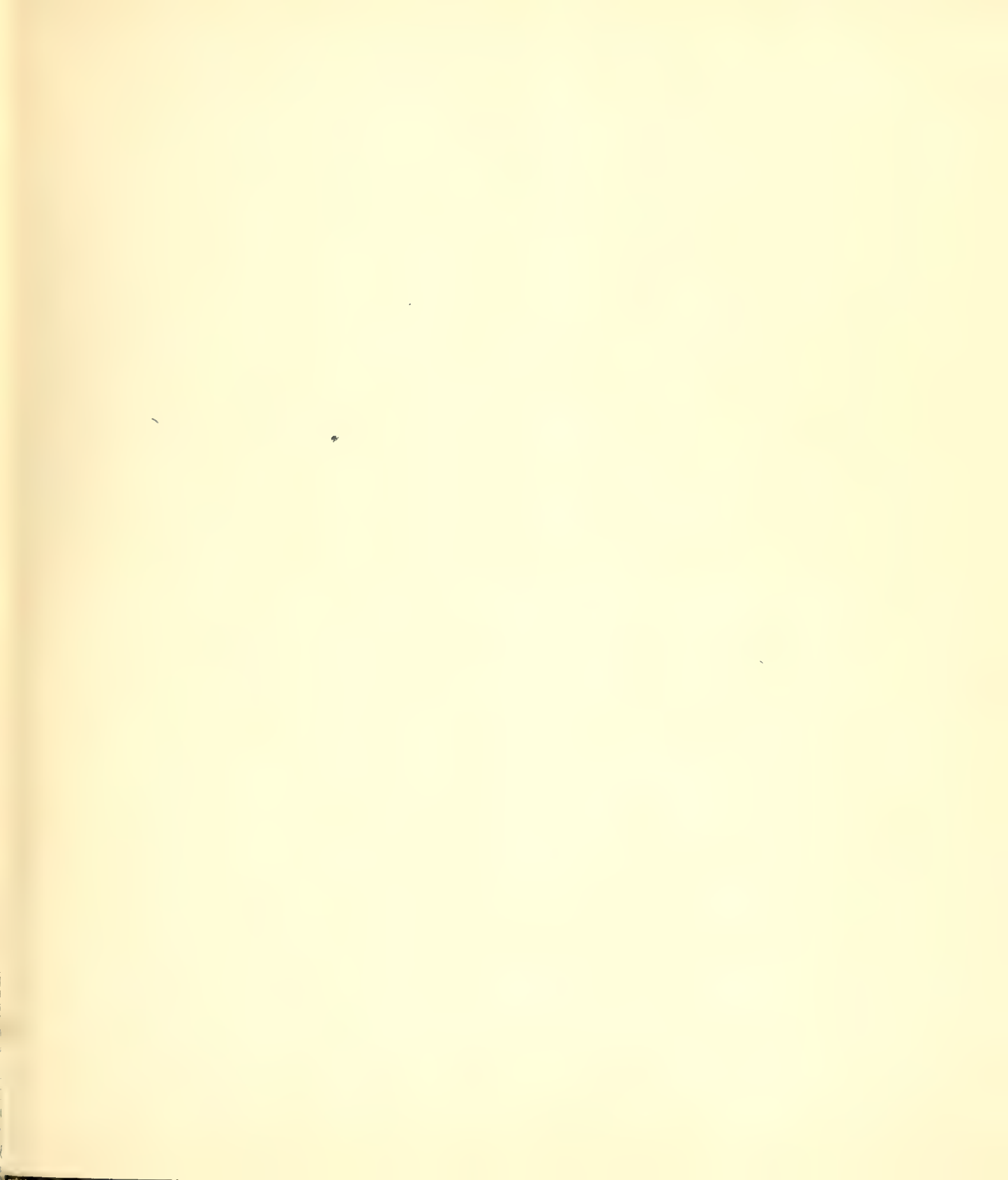
ISSUED BY

United States Railroad Administration AGRICULTURAL SECTION

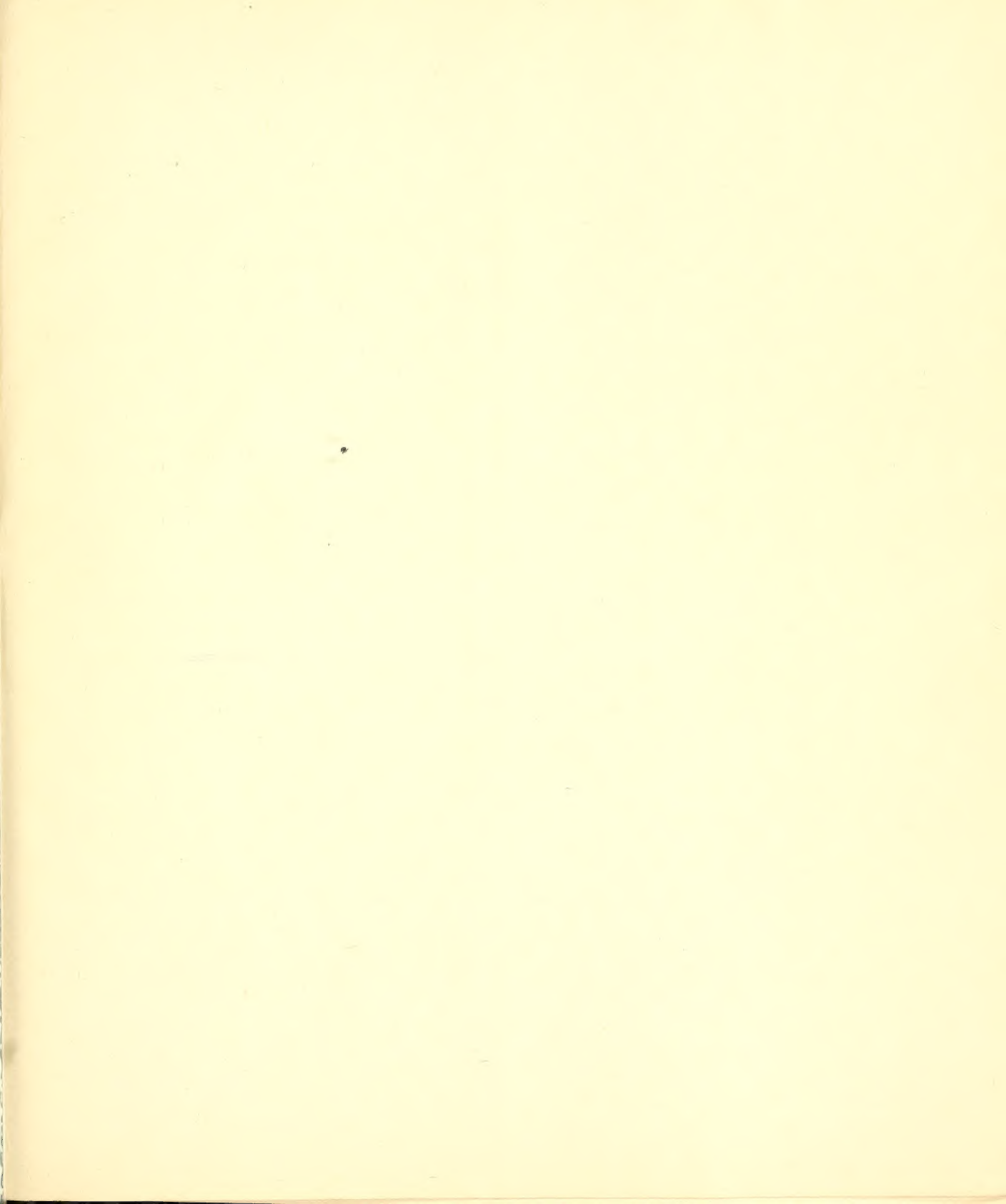
J. L. EDWARDS, Manager
WASHINGTON, D. C.

FOR THE USE OF ALL RAILROADS
IN THE STATE OF WASHINGTON

For Further Information, address







LIBRARY OF CONGRESS



0 003 220 577 A

